Sémantique, effets de réseau et métastabilité

Epineuil-le-Fleuriel

Henry Story
http://bblfish.net/

image thanks

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Remerciement Stiegler.

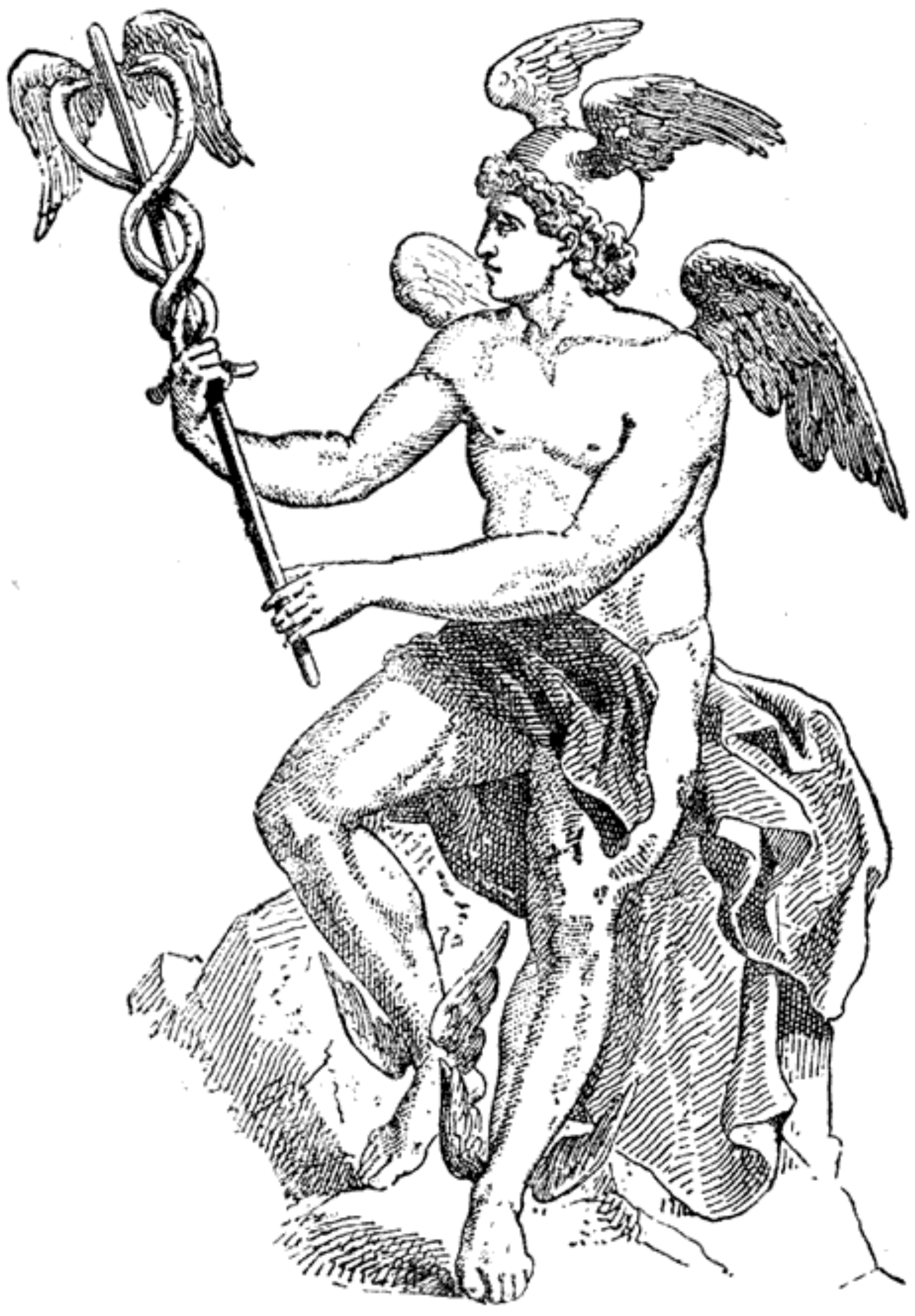
“Nur wo Leben ist, da ist auch Wille:
aber nicht Wille zum Leben, sondern
– so lehr ich's dich – Wille zur Macht!“

Also Sprach Zarathustra - Nietzsche

La vie comme volonté de puissance. En anglais “will to power” peut etre compris comme voloté de pouvoir, où le pouvoir peut etre pensé comme pouvoir politique, ou pouvoir sur les autres. Mais cela devrait etre plutot compris comme volonté de pouvoir d’action. Nietzsche parle de vie, et non d’individu. C’est a dire que c’est la vie entiere qui doit etre compris comme cela. Qu’est ce que la vie? Des structures qui se reproduisent et qui doivent acceder au plus de possibilités possibile. La plante pousse mais ne peut que lentement se déplacer. L’animal se deplace. L’homme peut se changer et creer des outils qui lui permettent d’etendre sa puissance - l’avion pour aller plus loin, l’ordinateur pour penser plus vite, les vaisseau spaciaux pour quitter la terre. Si il y a une necessité c’est celle ci.

Also sprach Zarathustra
Ein Buch für Alle und Keinen

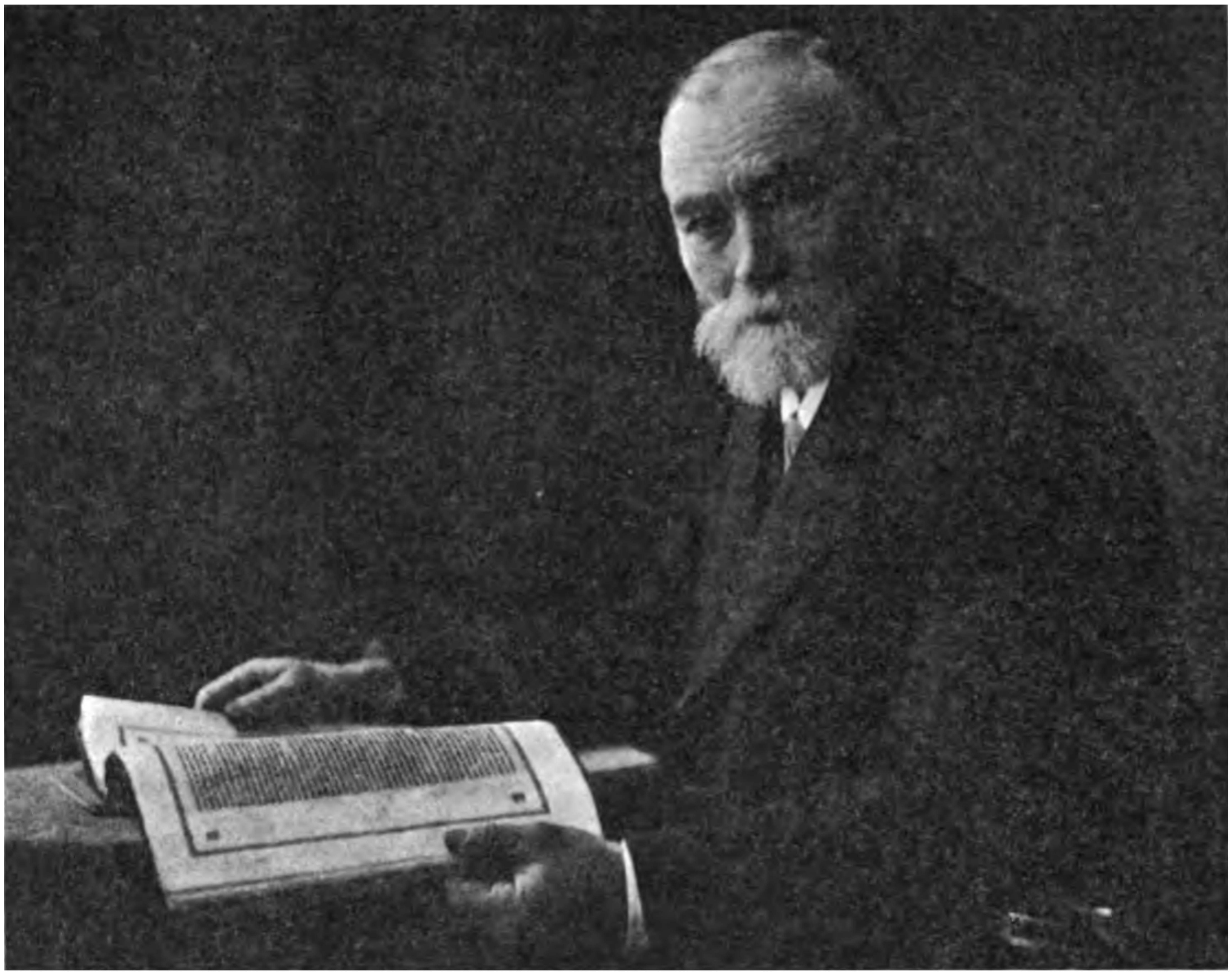
Beaucoup des livres de Nietzsche commencent avec ce genre d’avertissement. Zarathustra dit meme a ces disciples d’aller leur propre chemin et de remetre questionier toujours ces pensées, de trouver d’autre chemins.



sceptre des hérauts

Nietzsche, qui était malade, malade disait-il de l'histoire Europeene, dont la syphilis attrapé tout jeune le confronte avec la culpabilité, et dont les prédictions sur le 20e siecle et sur sa propre mésinterpretation ont été entierement confirmé. Ce malade doit etre précéde de Hermes avec son caducet (porté par les hérauts officier qui en tant de guerre passait porter les message et accompagnier les blessés.) Mais vers où le porter? Vers quel hospital? Et quels outils utiliseront-ils pour le guerir?

Personellement j'ai choisi de me tourner vers la philosophie analytique comme antidote.



Philosophie analytique qui emerge en Allemagne, naissaint avec la révolution de la logique mathématique de Frege a peut pres au même moment que Nietszsche est interné pour folie. Frege révolutionne la logique depuis Aristotle, en la formalisant, la mathématisant, la préparant pour la mechanique symbolique de l'ordinateur qui emergera dans le siecle suivant. Frége inspirera Bertrand Russel en angleterre, prendra Wittgenstein, Autrichien comme élève et dont le Tractatus Logic-Philosophicus écrit pendant la premiere guerre mondiale, inspirera le cercle de Vienne, qui furent chasse en grande partie vers les Etats-unis par le Fascisme.

“To be is to be the value of a variable”

"...offends the aesthetic sense of us who have a taste for desert landscapes."

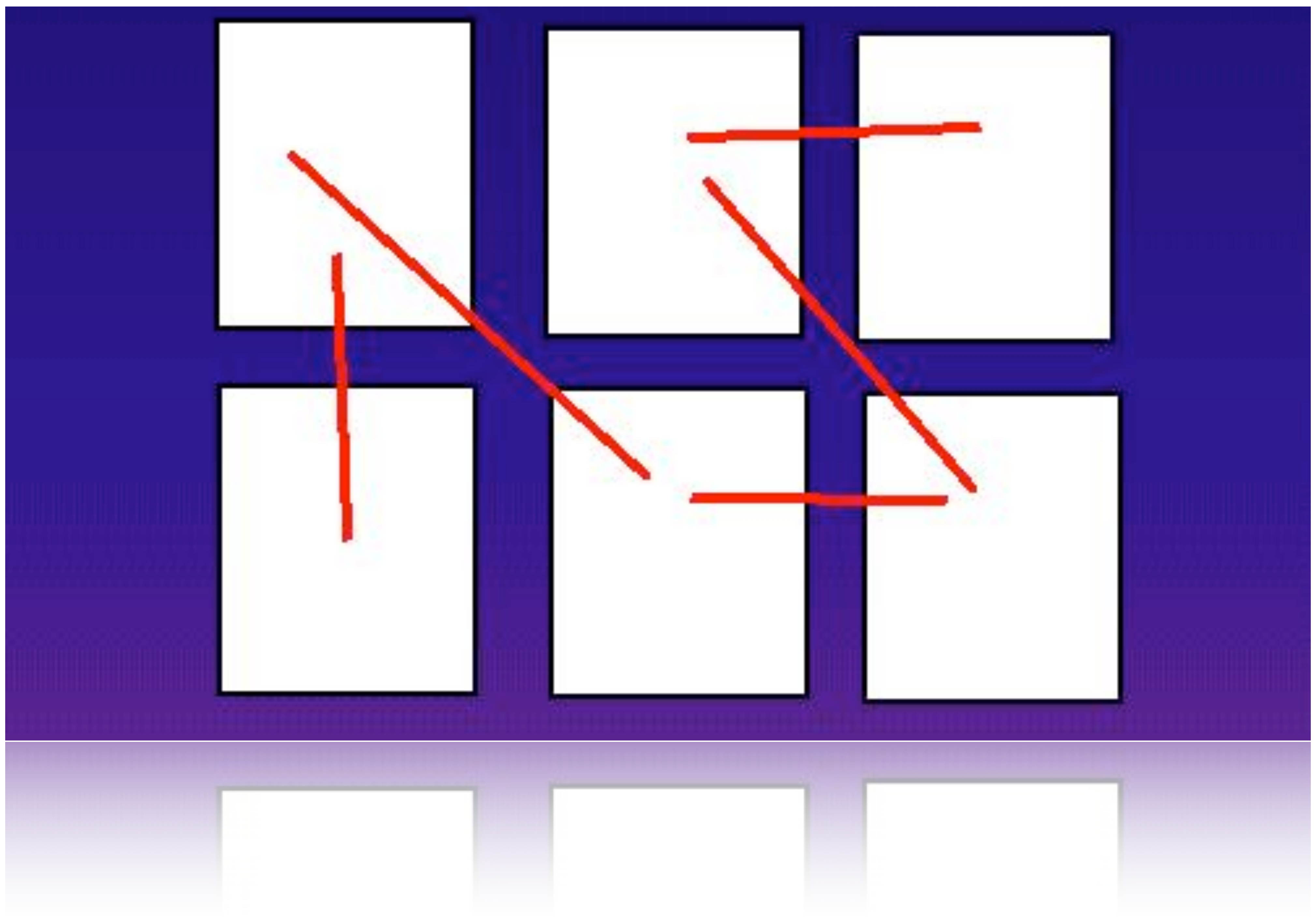
Quine, 1948, "On What There Is"

Un de ces philosophes americains Quine (1908-2000), philosophe dit il lui meme des paysages desertiques, embrace cet logique precise et la combine avec un “holisme” semantique. Je ne vais pas developer comme je ne suis pas Quinéen. Mais par contre j’ai été beaoucoup influencé par ces deux éleves Donald Davidson, et en particulier David Lewis, qui a pourrait on dire renversé cette pensée completement pour créer une des ontologies les plus riches: celle des mondes possible.

Tim Berners Lee

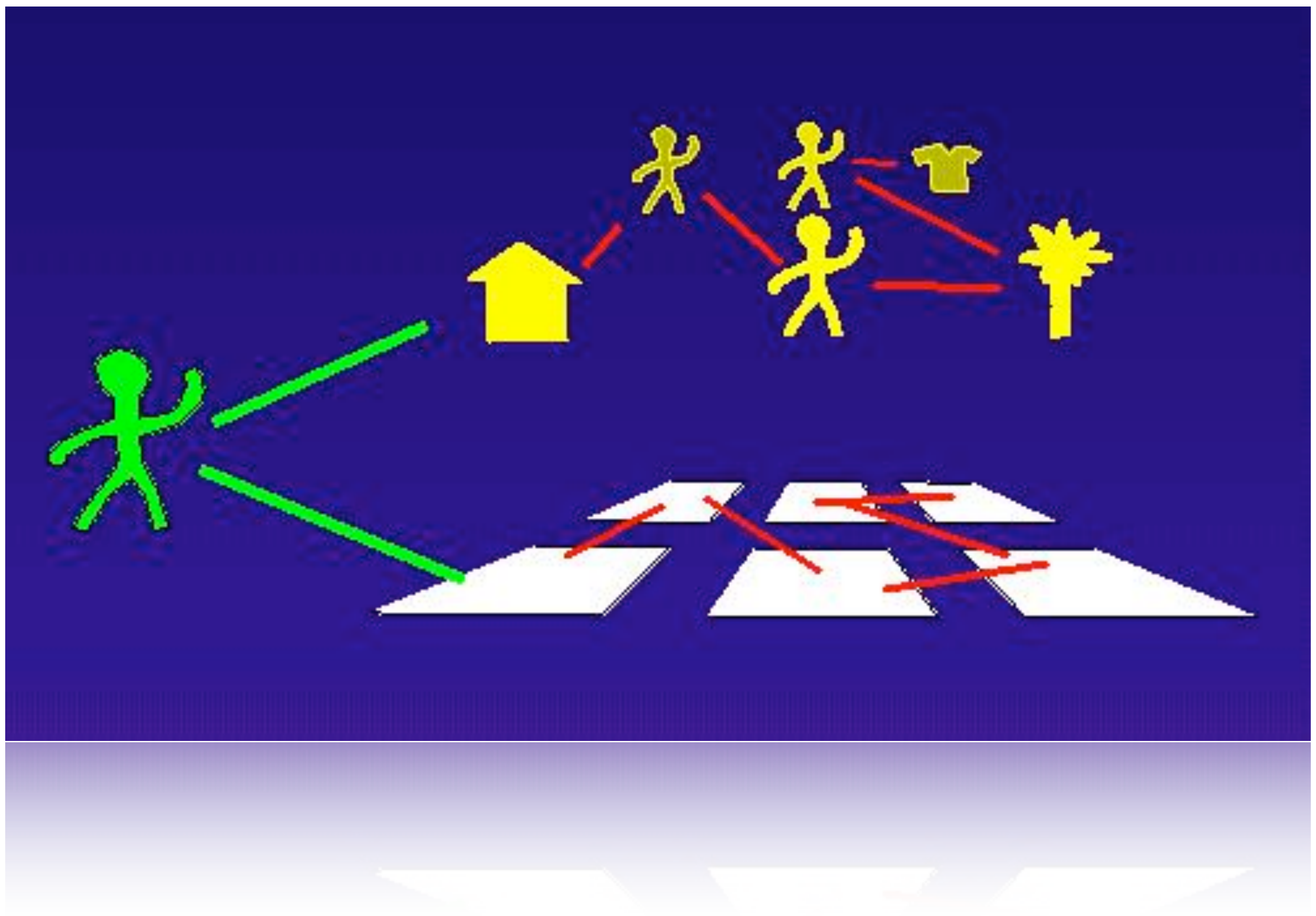
The Web is now philosophical engineering.

C’est cette logique qui est deriere le Web Sémantique, le projet réel de Tim Berners Lee, et qui explique sa phrase que le Web est de l’ingenieurerie philosophique.



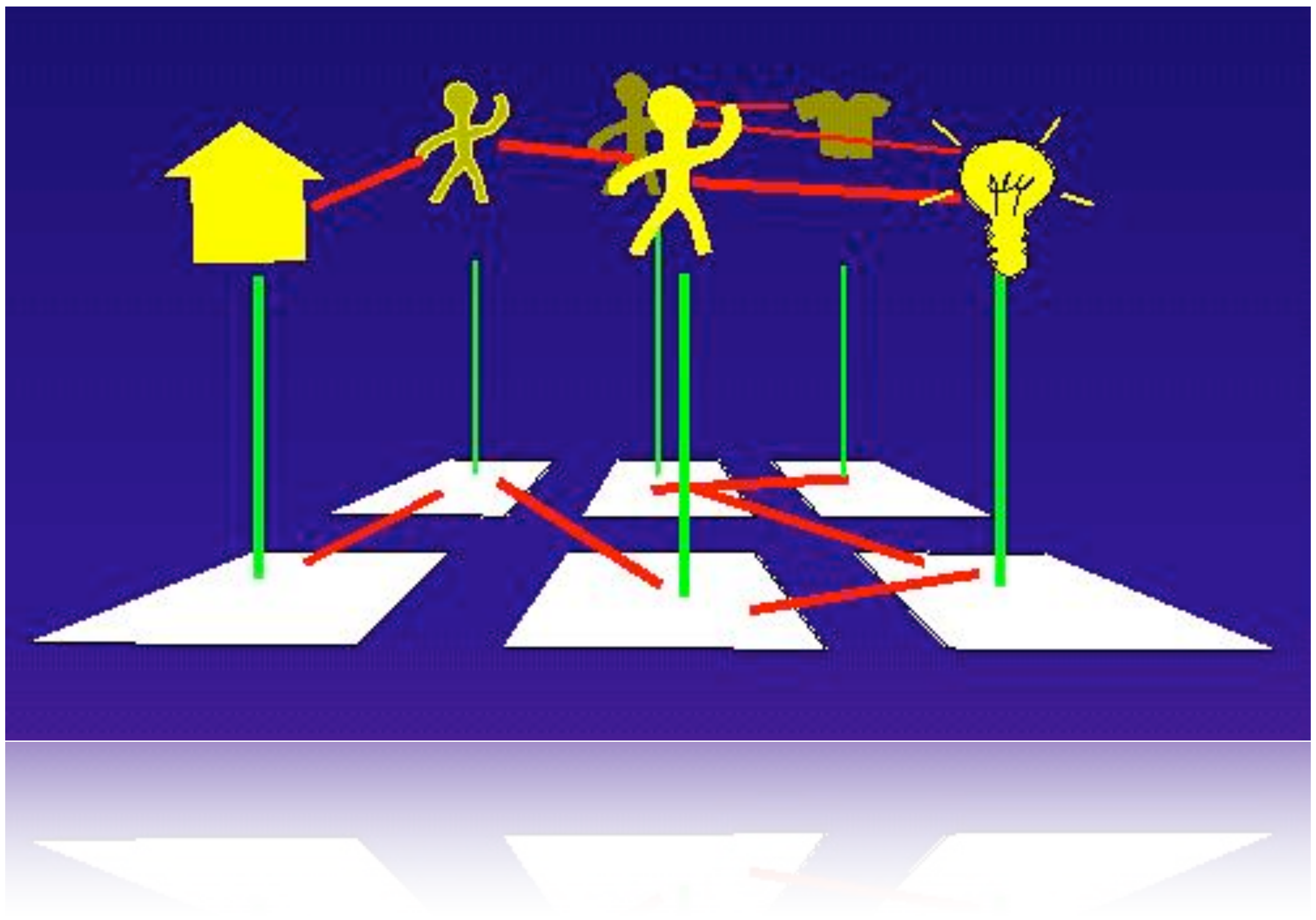
WWW Geneva 94

graphes de relations entre des pages



Semantic Web

ces pages peuvent parler de choses dans le monde



Social Web

et donc mettre les choses elle même en relation a travers les page qui parlent d'elle a travers la relation sémantique de référence.

5 Epoché/Revolutions

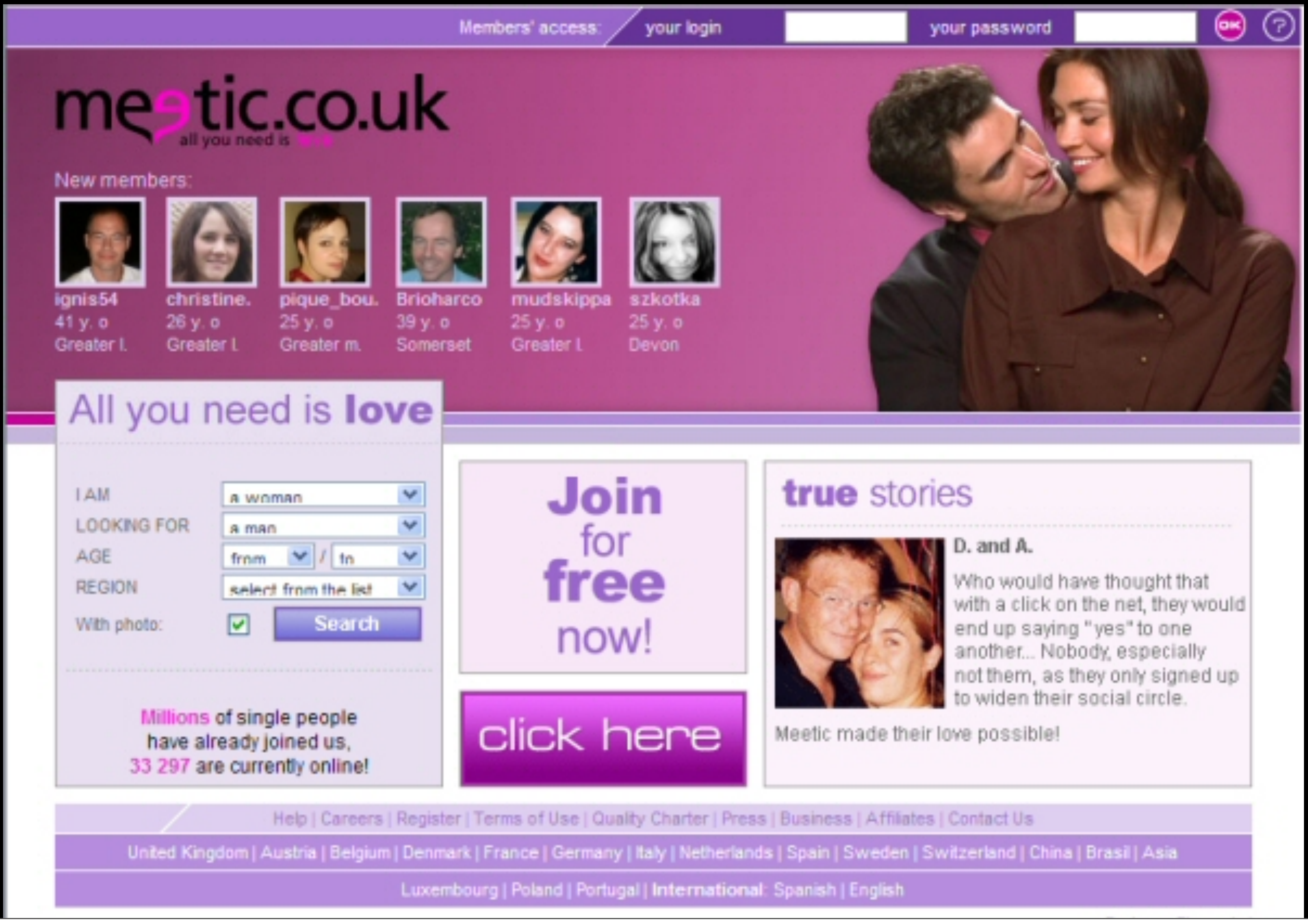
- Micro-ordinateurs (et Arpanet)
- Ordinateurs personells (thatcherisme)
- Web (et .com - Al Gore/Clinton)
- Web2.0 - l’aparition de social décentralisé
- Web Social centralisé (facebook, twitter)

2010: Privacy hits the headlines

DOUBLE ISSUE
DECEMBER 27, 2010 / JANUARY 3, 2011
Person of the Year
TIME
Facebook's Mark Zuckerberg
THE CONNECTOR
www.time.com

DECEMBER 13, 2010
Ireland: How it got into its economic mess
North Korea: Why won't China step in?
Climate Change: Africa's quest to beat the desert
Movies: Flicks for St. Nick's
TIME
Do You Want to Know a Secret?
Why WikiLeaks' Julian Assange has so many of them
BY MASSIMO CALABRESI
And why it hasn't hurt America
BY FAREED ZAKARIA
www.time.com

un pharmakon qui a peut etre positif et négatif et qui nous amène Wikipedia, Facebook, et Wiki leaks.


Members' access:
your login
your password
OK
?
meetic.co.uk
all you need is love
New members:
ignis54
41 y. o
Greater l.
christine.
26 y. o
Greater l.
pique_bou.
25 y. o
Greater m.
Brioharco
39 y. o
Somerset
mudskippa
25 y. o
Greater l.
szkotka
25 y. o
Devon
All you need is **love**
Search
Join for free now!
click here
true stories
Help | Careers | Register | Terms of Use | Quality Charter | Press | Business | Affiliates | Contact Us
United Kingdom | Austria | Belgium | Denmark | France | Germany | Italy | Netherlands | Spain | Sweden | Switzerland | China | Brasil | Asia
Luxembourg | Poland | Portugal | **International:** Spanish | English

I AM: a woman
LOOKING FOR: a man
AGE: from / to
REGION: select from the list
With photo: ☑

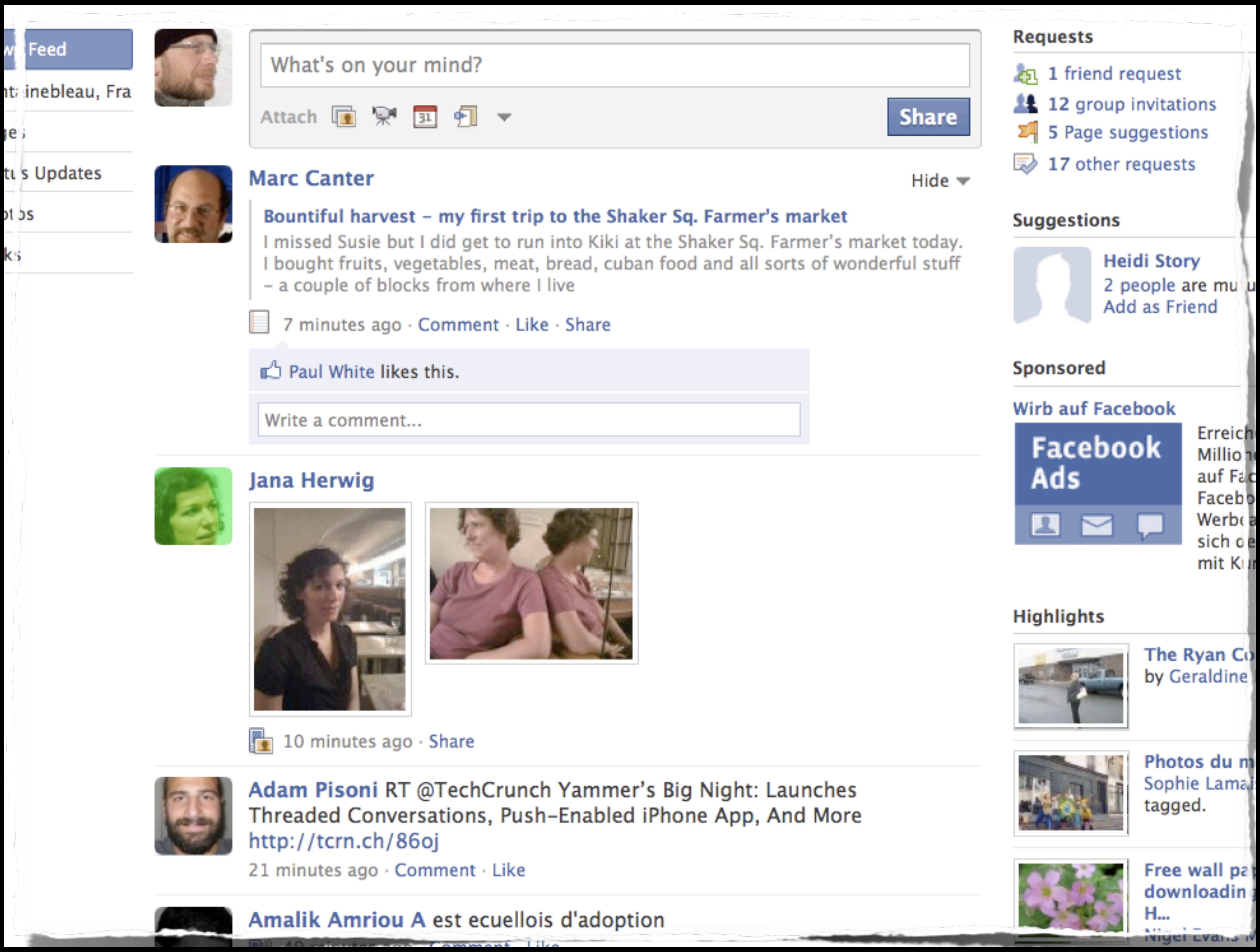
Millions of single people have already joined us, 33 297 are currently online!

D. and A.

Who would have thought that with a click on the net, they would end up saying "yes" to one another... Nobody, especially not them, as they only signed up to widen their social circle.

Meetic made their love possible!

Mais pour comprendre les réseaux actuels il faudrait faire un généalogie des sites de réseaux sociaux. Wired a fait publie un excellent article sur The Well http://www.wired.com/wired/archive/5.05/ff_well_pr.html crée en 1984 et qui permettait des conversation tres poussé sur l'internet parmi les universitaires. Mais avec le .com boom des sites basés beaucoup plus sur la pulsion sexuelle – sous la prétention de sites de rencontres se sont crées.


Feed
inebleau, Fra
Updates
What's on your mind?
Attach
Share
Hide
Requests
1 friend request
12 group invitations
5 Page suggestions
17 other requests
Suggestions
Heidi Story
2 people are mu
Add as Friend
Sponsored
Wirb auf Facebook
Facebook Ads
Highlights
The Ryan Co
by Geraldine
Photos du m
Sophie Lama
tagged.
Free wall pa
downloadin
H...

Marc Canter

Bountiful harvest – my first trip to the Shaker Sq. Farmer's market

I missed Susie but I did get to run into Kiki at the Shaker Sq. Farmer's market today. I bought fruits, vegetables, meat, bread, cuban food and all sorts of wonderful stuff – a couple of blocks from where I live

7 minutes ago · Comment · Like · Share

Paul White likes this.

Write a comment...

Jana Herwig

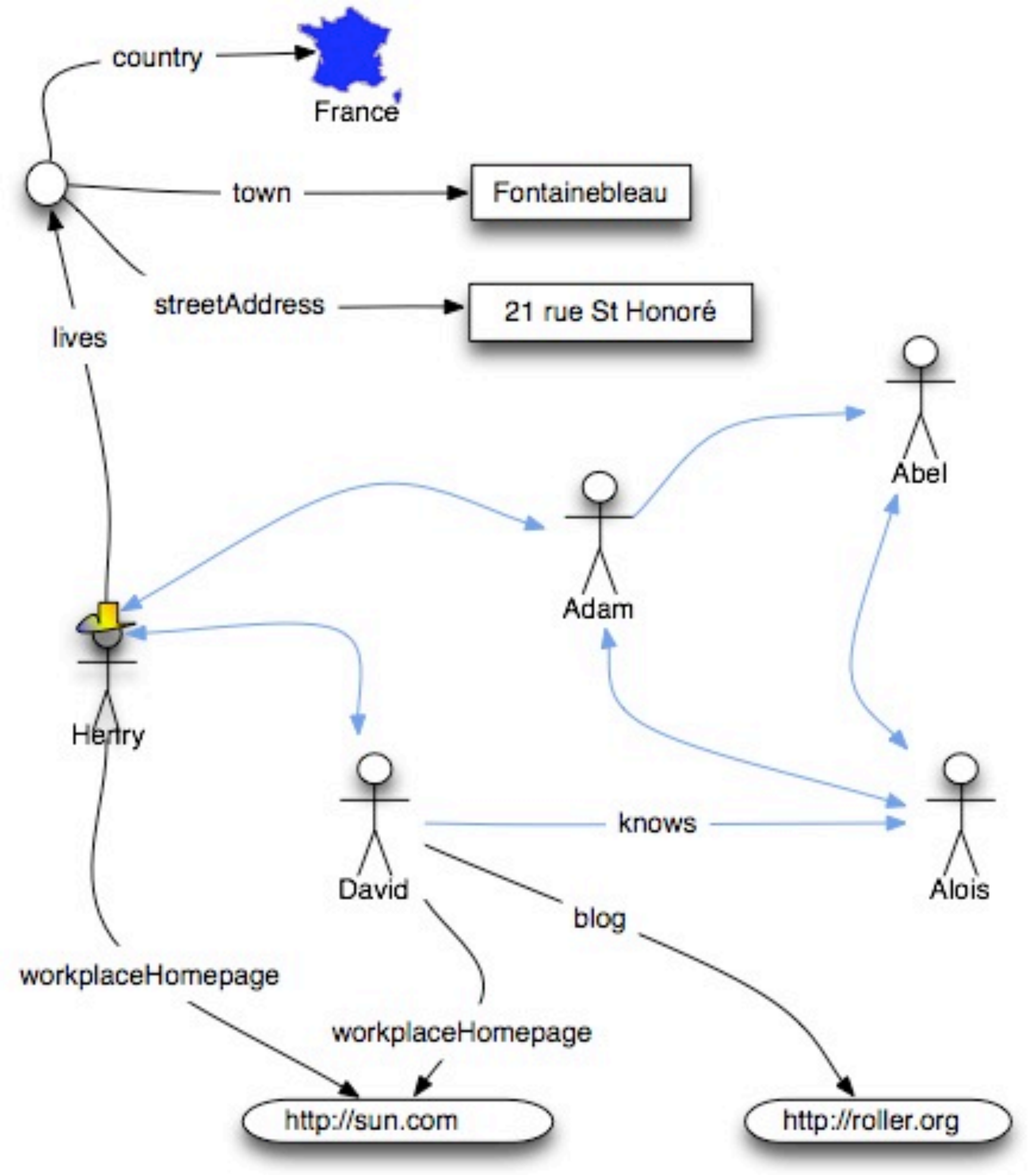
10 minutes ago · Share

Adam Pisoni RT @TechCrunch Yammer's Big Night: Launches Threaded Conversations, Push-Enabled iPhone App, And More http://tcrn.ch/86oj

21 minutes ago · Comment · Like

Amalik Amriou A est ecuellois d'adoption

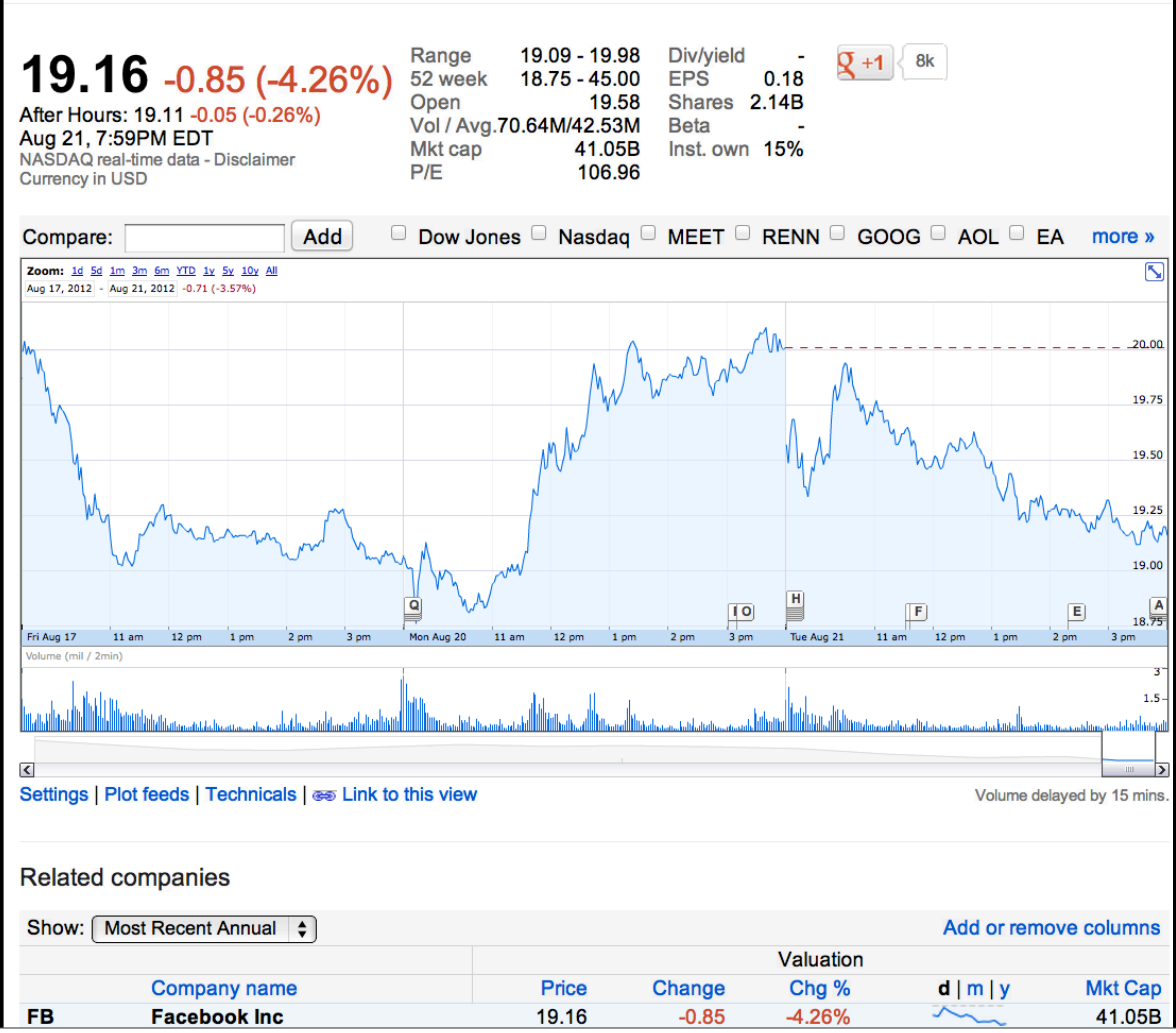
Mais le probleme essentiel d'un site de rencontre est qu'une fois des gens se sont rencontrés, il ne veulent plus utiliser le site. Le révolution de Facebook, bien loin d'agir sur les pulsions de bases comme le prétendent beauoup, travaille en fait sur les relations a longue durée. En publiant l'image des personnes sur le site de facon visible, en favorisant la notion d'amis stable, et d'amis d'amis, en favorisant une transparence FB a misé sur des relations de transidividuation bien plus longue que les sites de rencontres. Cela permet évidement le court termisme et la stupidité, mais l'architecture ne le renforce pas. Cela favorise en effet plutot que les gens reviennent et échangent des données, en résolvant donc un probleme du web: celui de partage de contenu entre amis.


country
France
town
Fontainebleau
streetAddress
21 rue St Honoré
lives
Abel
Adam
Henry
David
knows
Alois
blog
workplaceHomepage
workplaceHomepage
http://sun.com
http://roller.org

derrière l’interface utilisateur des réseaux - des graphes de relations peuvent se former. Ces graphes sont Facebook permet en plus la protection partielle des information, créeant des réseaux qui se policent eux memes par leurs utilisateurs. Feacebook emprunte donc a wikipedia l’élement de “crowdsourcing” un policage du cite-oyen de facebook par lui même.

Thursday, 20 September 12

Mais il permet aussi - quoique rarement discuté - la visibiltié de tout le réseaux par la corporation elle même.



19.16 -0.85 (-4.26%)
After Hours: 19.11 -0.05 (-0.26%)
Aug 21, 7:59PM EDT
NASDAQ real-time data - Disclaimer
Currency in USD

Range	19.09 - 19.98
52 week	18.75 - 45.00
Open	19.58
Vol / Avg.	70.64M/42.53M
Mkt cap	41.05B
P/E	106.96
Div/yield	-
EPS	0.18
Shares	2.14B
Beta	-
Inst. own	15%

Compare: ☐ Dow Jones ☐ Nasdaq ☐ MEET ☐ RENN ☐ GOOG ☐ AOL ☐ EA

Aug 17, 2012 - Aug 21, 2012 -0.71 (-3.57%)

Volume delayed by 15 mins.

+1
8k
Add
more »
Zoom: 1d 5d 1m 3m 6m YTD 1y 5y 10y All
20.00
19.75
19.50
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Mon Aug 20
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Tue Aug 21
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Volume (mil / 2min)
3
1.5
Settings | Plot feeds | Technicals | Link to this view

Related companies

Show: Most Recent Annual

Add or remove columns

		Valuation				
	Company name	Price	Change	Chg %	d | m | y	Mkt Cap
FB	**Facebook Inc**	19.16	-0.85	-4.26%		41.05B

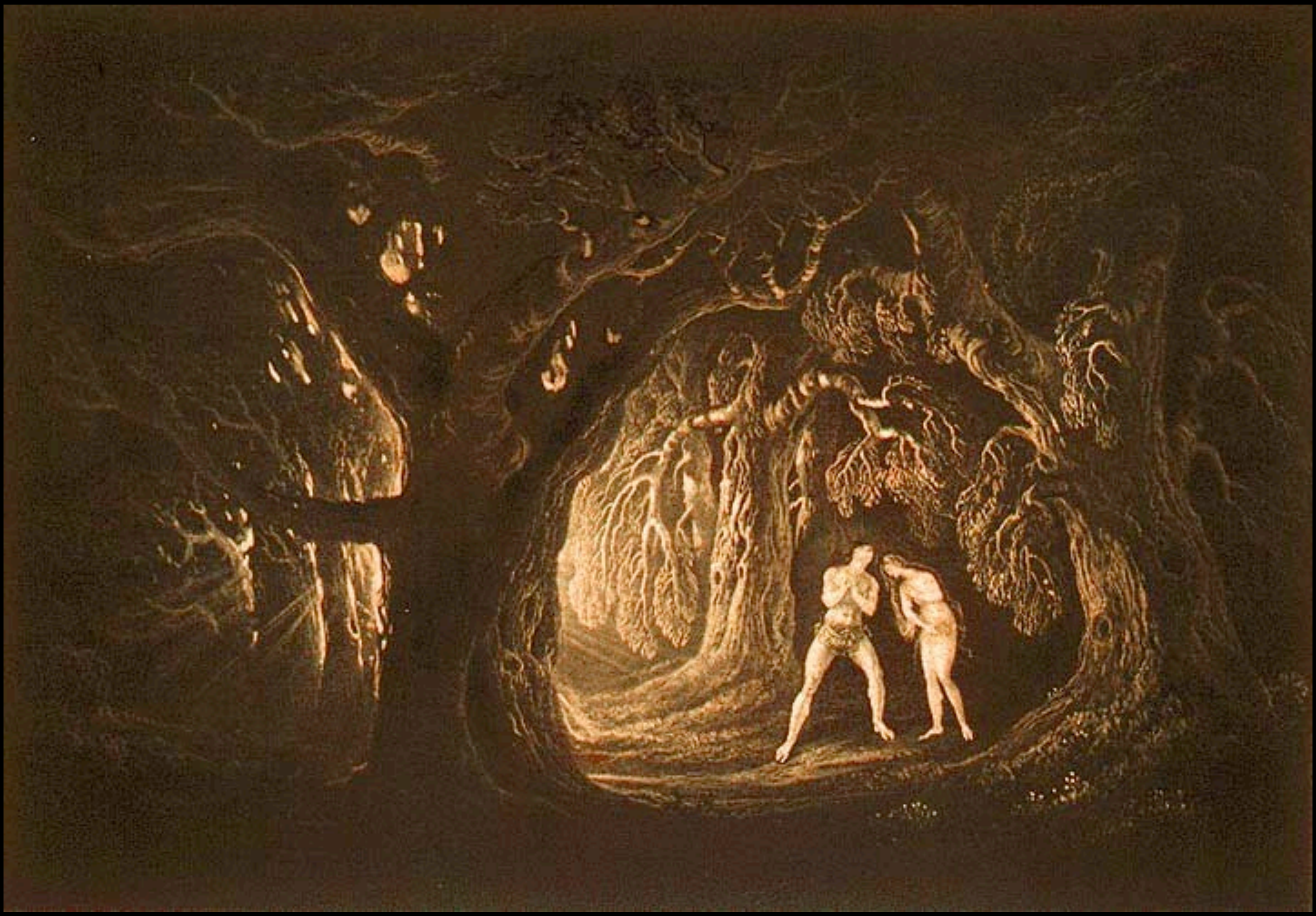
corporation qui a été mis sur le marché a 100 milliards de dollards et qui depuis a perdus 60% de ca valeur, ce qui risque de renforcer les mauvaises tendances pulsionelles dans le system.

Panopticon?

Jeremy Bentham
1785

Thursday, 20 September 12

Facebook est un panopticon capitaliste qui permet la visibilitée complete du systeme par les propiétaires, qui peuvent dans les limites de l’acceptable (qui peut changer) vendre les données – ou meme etre oblige par les pouvoirs politiques des etats unis de le réveler.

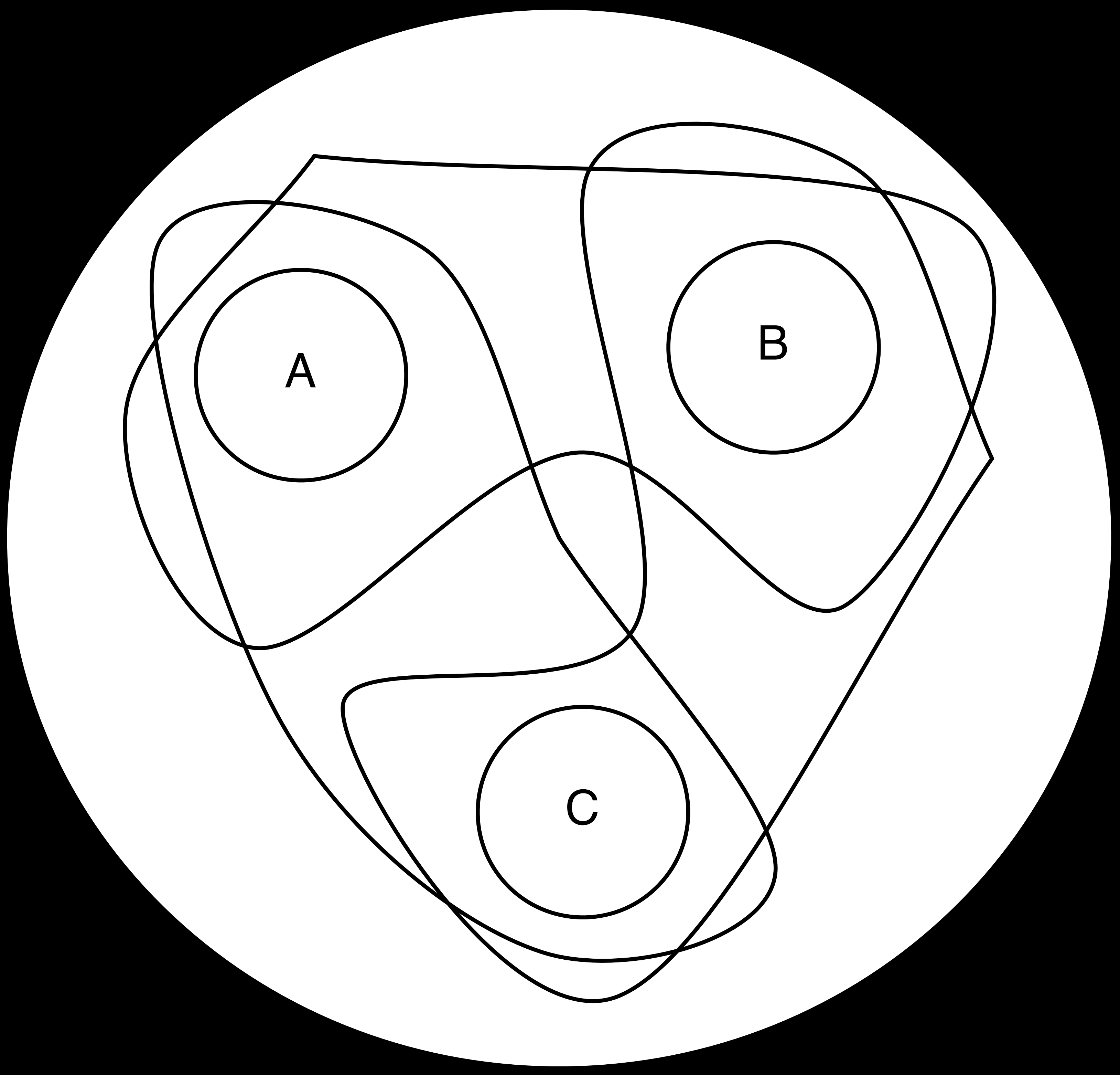


Comme dans l’ancient testament nous découvrons donc notre nudité totale. Et pourtant la question est: pourquoi des milliards d’individus vont ils joindre de leur plein gré un system d’un tel genre? Comme dans l’ancien testament nous devons comprendre la relation de Dieux au pouvoir. Et ici le pouvoir et compris dans l’éffet de réseaux. Le plus de gens joignent facebook, le plus d’échangent ils peuvent faire facilement sur le systeme - échange d’images, de sites web, le plus de confiance ils peuvent avoir, le plus confiance ils vont avoir et le plus ils vont essayer de convaincre leurs amis de joindre. Echanger des photos de chats ou des videos par mail n’est pas facile. FB résout ce probleme en donnant un semblant d’intime.

The Power Set is the sets of all subsets of a set.

P({A,B,C})={{},{A},{B},{C},{A,B},{A,C},{B,C},{A,B,C}}

|P({A,B,C})|=8



A bit of maths here is helpful. Take a set of three people: Allan, Beatrice, and Clive (A, B, C). Consider the Power Set of that set, that is the set of all subsets of the set. It contains the empty set the set of all singletons, the set of all pairs and the set itself. So the number of groups that can be formed with 3 people is 8 as shown.

For a set of size n
the power set size is
2^n

Power sets follow a mathematical law: for a set of size n the power site size is 2 to the power of n.
It is worth looking at how this grows.

PS(100) = 1 267 650 600 228 229 401 496 703 205 376

PS(200) = 160 693 804 425 899 027 554 196 209 234 116 260 252 220 299 378 279 283 530 137

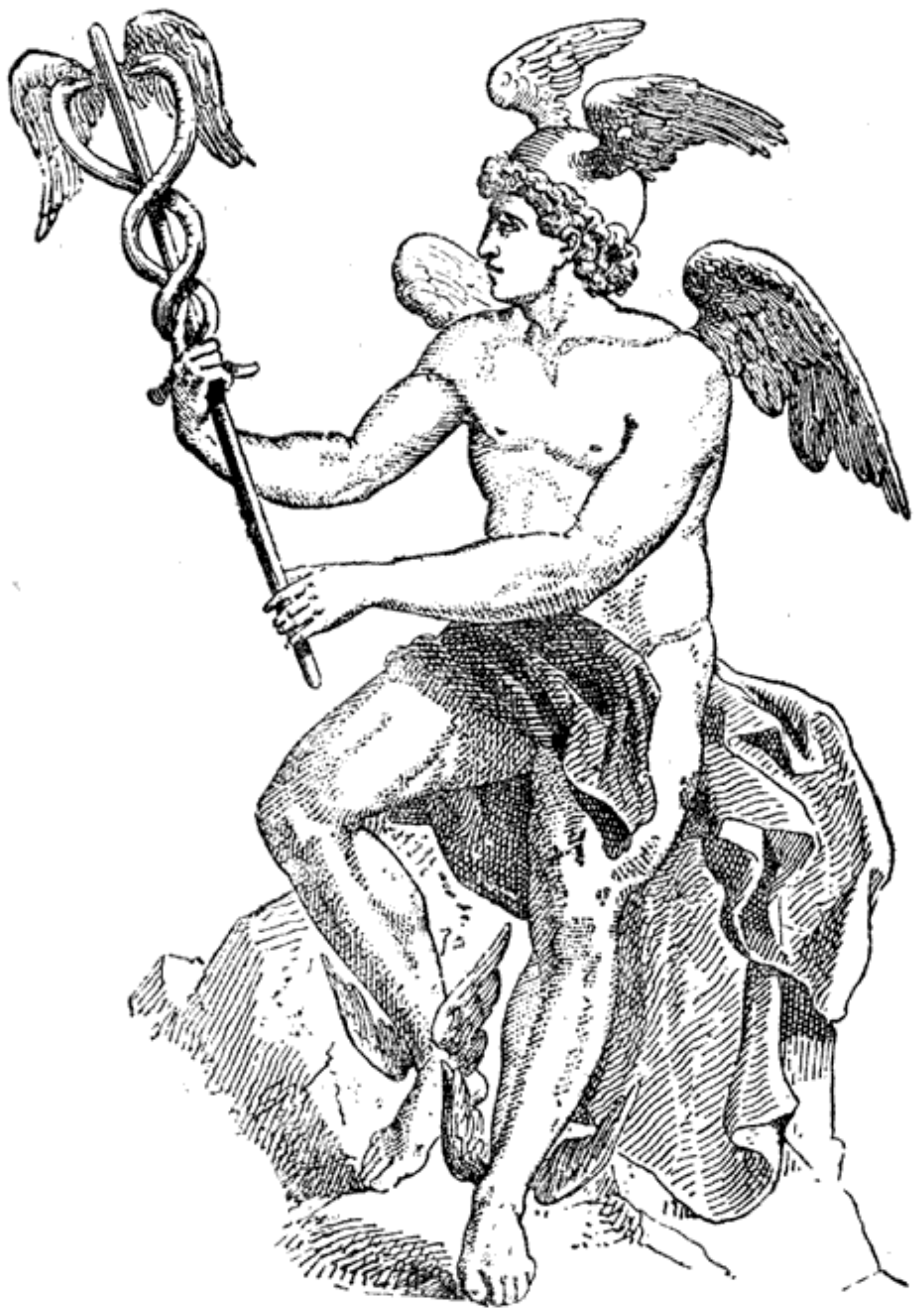
PS(1000) = 10 715 086 071 862 673 209 484 250 490 600 018 105 614 048 117 055 336 074 437 503 883 703 510 511 249 361 224 931 983 788 156 958 581 275 946 729 175 531 468 251 871 452 856 923 140 435 984 577 574 698 574 803 934 567 774 824 230 985 421 074 605 062 371 141 877 954 182 153 046 474 983 581 941 267 398 767 559 165 543 946 077 062 914 571 196 477 686 542 167 660 429 831 652 624 386 837 205 668 069 376

≈ 1 Googol cubed = (10^^100)^^3

The Power Set Size for 100 is 1 nonillion, for 200 it is one hundred sixty octodecillion.
To get an idea of the size of the Powerset of sets with 1000 members, we need to compare this number to the Googol, the number of the famous search engine. A Googol is 10 followed by 100 zeroes. The third number has 300 digits, that is it is a google times a square google. So the space of possibilities we are looking at would be like positioning a Google as one square in a space one googol long and one googol wide.

If we imagine 1000 acquaintances listing all the groups they are interested members of then, this is equivalent to them declaring their position in this huge space of possibilities.

Well those are some back of the envelope calculations that would require some further thought.



Thursday, 20 September 12

Donc revenons a Hermes et au Caducae.

Pour résoudre ce probleme nous devons reconsidere encore une fois les problemes de l’architecture du web pour bien monter comment cela

Consider the telephone network for example.

at&t

BT

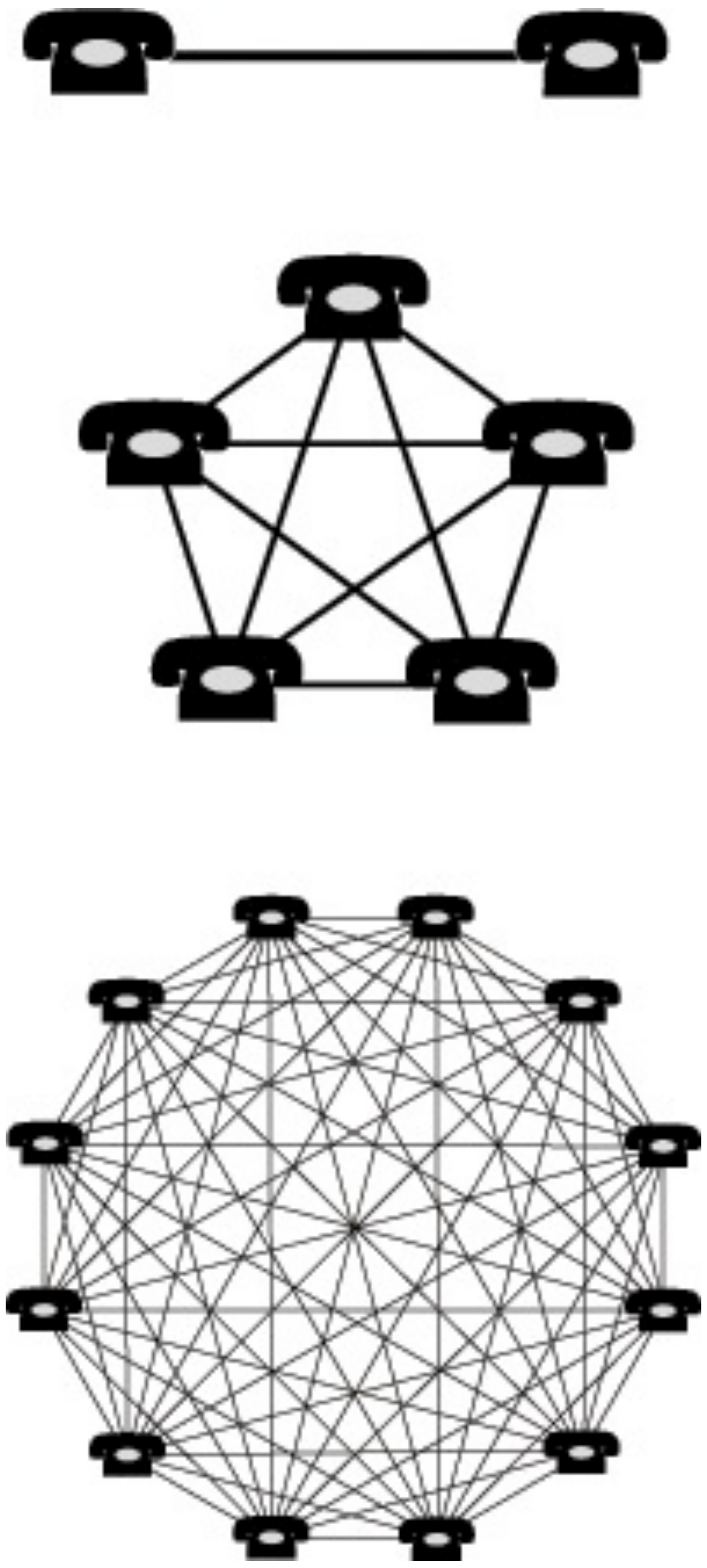
Calling across network operators does not seem to be a problem there.

Metcalf’s Law:

$n(n - 1)/2$,

which is proportional to

n^2



It may have been at one point though. But the following reasoning can show us the pressures that are thought to have been brought to bear in that space.

Consider a time where only two telephones were connected by one line. The value of the line would be completely dependent there on the value those two people laid on their ability to communicate with each other remotely.

Consider now a network of 5 telephones. With 5 telephones the value of the telephone for each user is the value he puts on communicating remotely with any of 4 other people. The value of the network is the combined number of such connections, namely 10.

With 12 people in the network the value of the network is 11 for each user and so 66 for the whole network.

--- Notes ---

I first argued this in “RDF and Metcalf’s Law”, July 29 2006
http://blogs.sun.com/bblfish/entry/rdf_and_metcalf_s_law

French Population = 65 million
ML(65 million)= 2 080 million^2

German Population = 82 million
ML(65 million)= 3 321 million^2

German+French Pop = 147 million
ML(147)= 10 731 million^2

Imagine now that a country such as Germany and France were totally disconnected islands. The value of the German network would be according to current population 2 080 million squared (quadrillion), the value of the French network would be 3300 quadrillion links. By laying one cable linking the German and French network, both the German and French networks gained millions of users, but more interestingly the combined value of the network is double the value the sum of the two.

This gives an indication of the value advantage for any telecom operator to be part of a global telecommunications space. It used to be argued that most people would find nearly no value in connecting out of their local community, and so that these figures should not be taken too far. But more and more we are finding that those links, once in place do get used... When spaces of possibilities open up, organisations develop to start making use of them.

orange™

Deutsche
Telekom

at&t

BT

vodafone

In any case one can now call people from any operator to any other operator, without ever really knowing what operator one's contact is on.

tel:+33.9.70.44.86.64

All one needs to know is their telephone number, a globally unique identifier for their phone. In some countries one can even switch operator and keep the same number.

The same is true of e-mail.

In the early 80ies, when universities were starting to connect with each other, the value of e-mail was still very limited. Even academics who could with minimal effort get email accounts often found the inconvenience of learning new tools to participate in this network not to be worth their while.

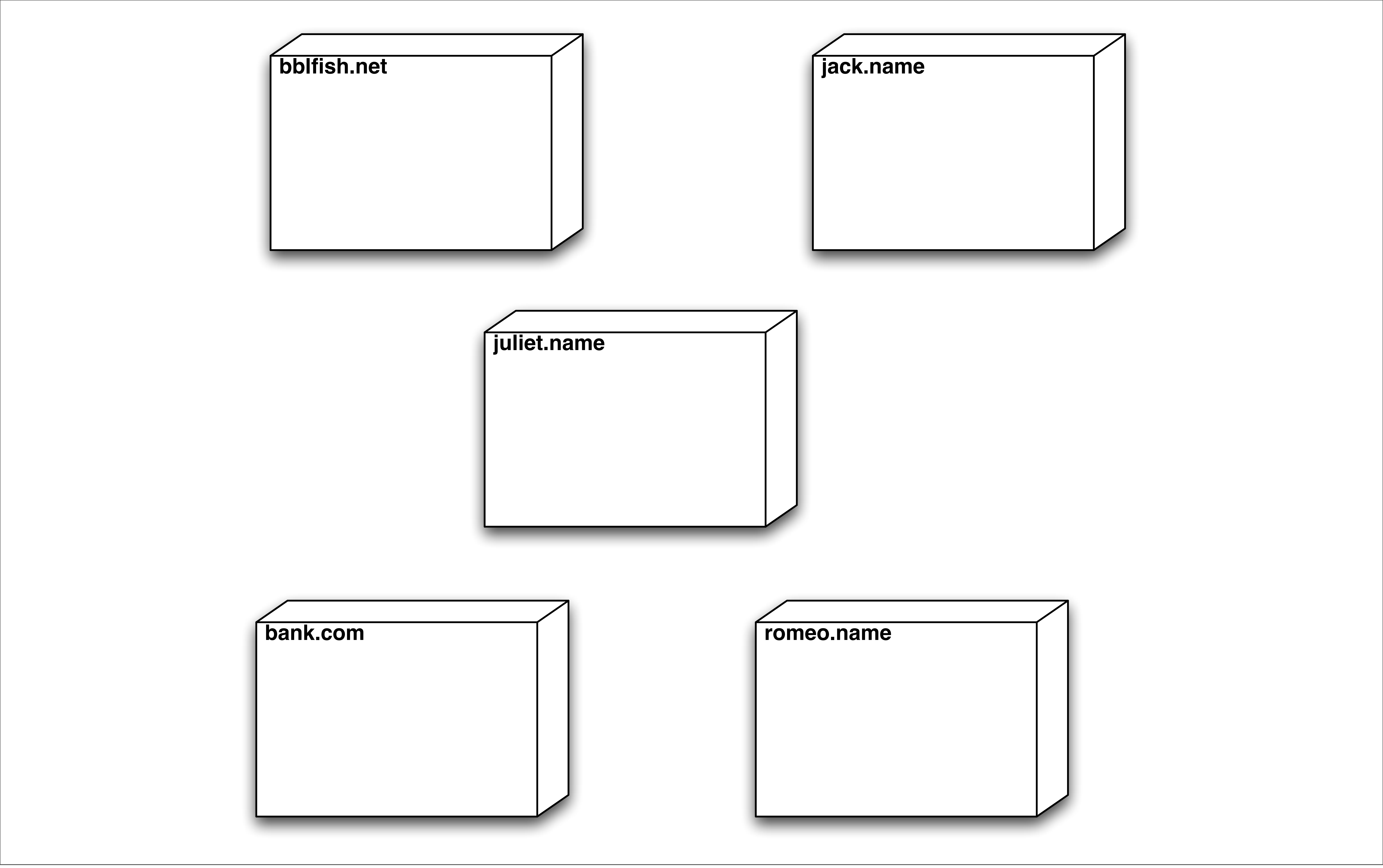
mailto:henry.story@bblfish.net

But now with email you can send messages to the whole world, whatever organisation your contact belongs to, wherever they are.

Again e-mails rely on globally unique identifiers, identifiers of inboxes that are easy to write down at a party and type in a message. Nobody needs to know which software runs the resulting system, or who runs it. E-mail was designed for cross organisational communication.

Thursday, 20 September 12

Now Consider the Web, you can buy your own domain name (mine is bblfish.net) and so can your friends...


bblfish.net
jack.name
juliet.name
bank.com
romeo.name

Imagine all of us get a computer and name each of our boxes using DNS (Domain Name System). The computers could be anywhere: in the cloud, in your basement (of if you are Swiss in your bunker), in a pocket sized personal computer devices, in your cell phone, ... whatever. We don’t care. We just draw them as boxes.

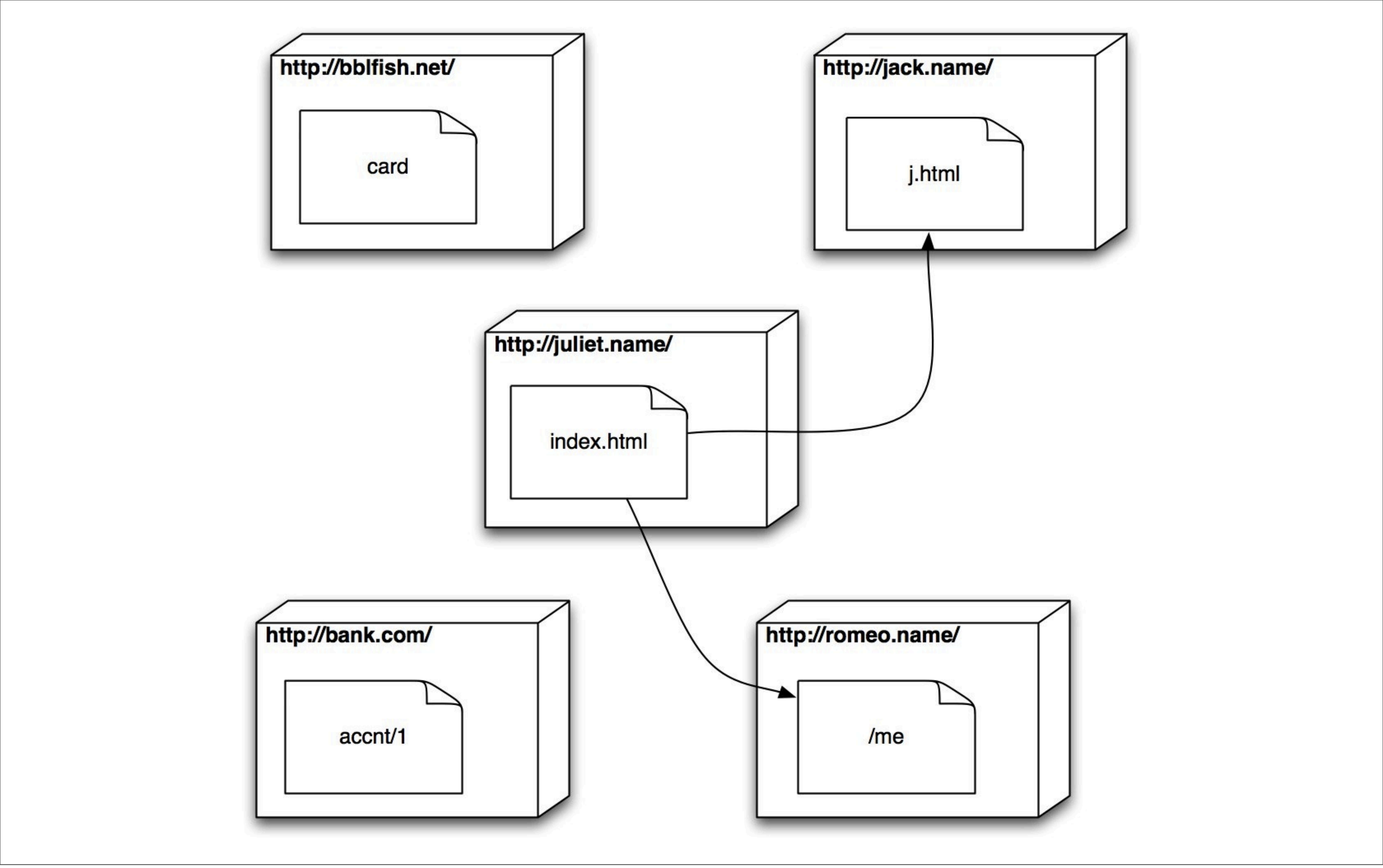
Eben Moglen: author of GPL

Freedom in the cloud

Libre =/= gratuit Stallman

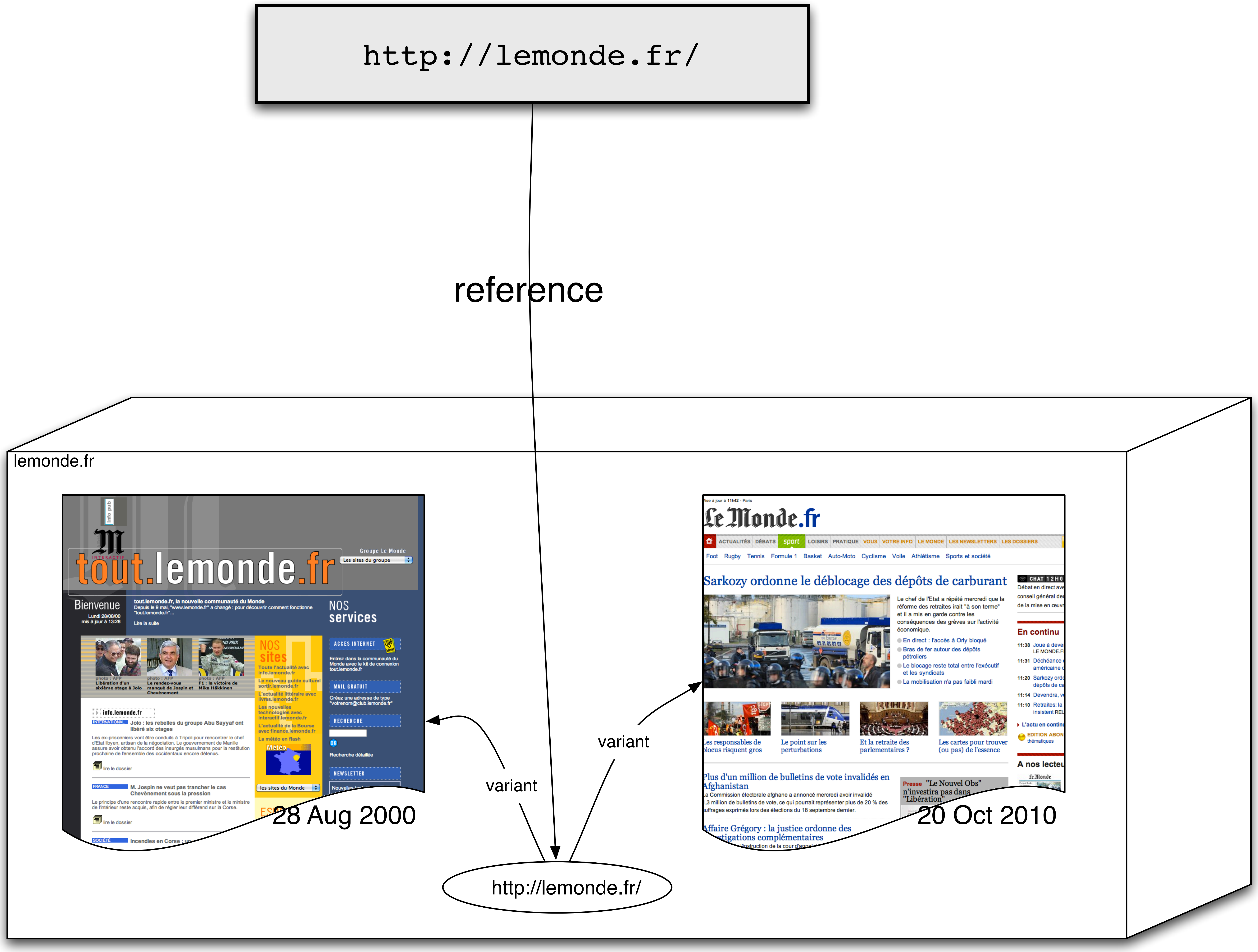
Boite de Pandore.

Imagine all of us get a computer and name each of our boxes using DNS (Domain Name System). The computers could be anywhere: in the cloud, in your basement (of if you are Swiss in your bunker), in a pocket sized personal computer devices, in your cell phone, ... whatever. We don’t care. We just draw them as boxes.


http://bblfish.net/
card
http://jack.name/
j.html
http://juliet.name/
index.html
http://bank.com/
accnt/1
http://romeo.name/
/me

On each of these you can set up your own web server which then allows others to access your web site with a URL such as mine http://bblfish.net/

You then can place web pages on each of these servers. Any number of them. They can then be linked.



http://lemonde.fr/

reference

lemonde.fr

variant

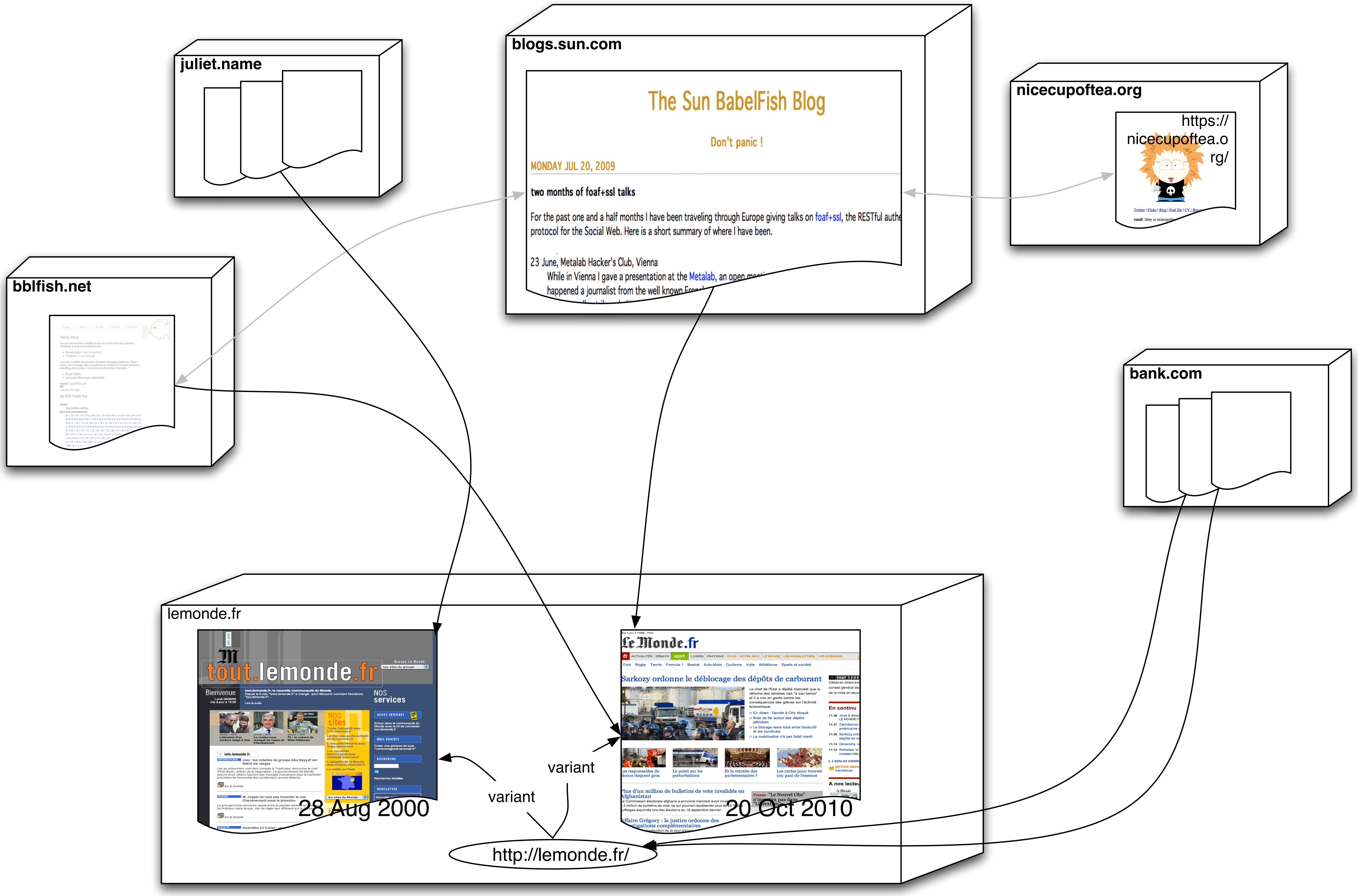
variant

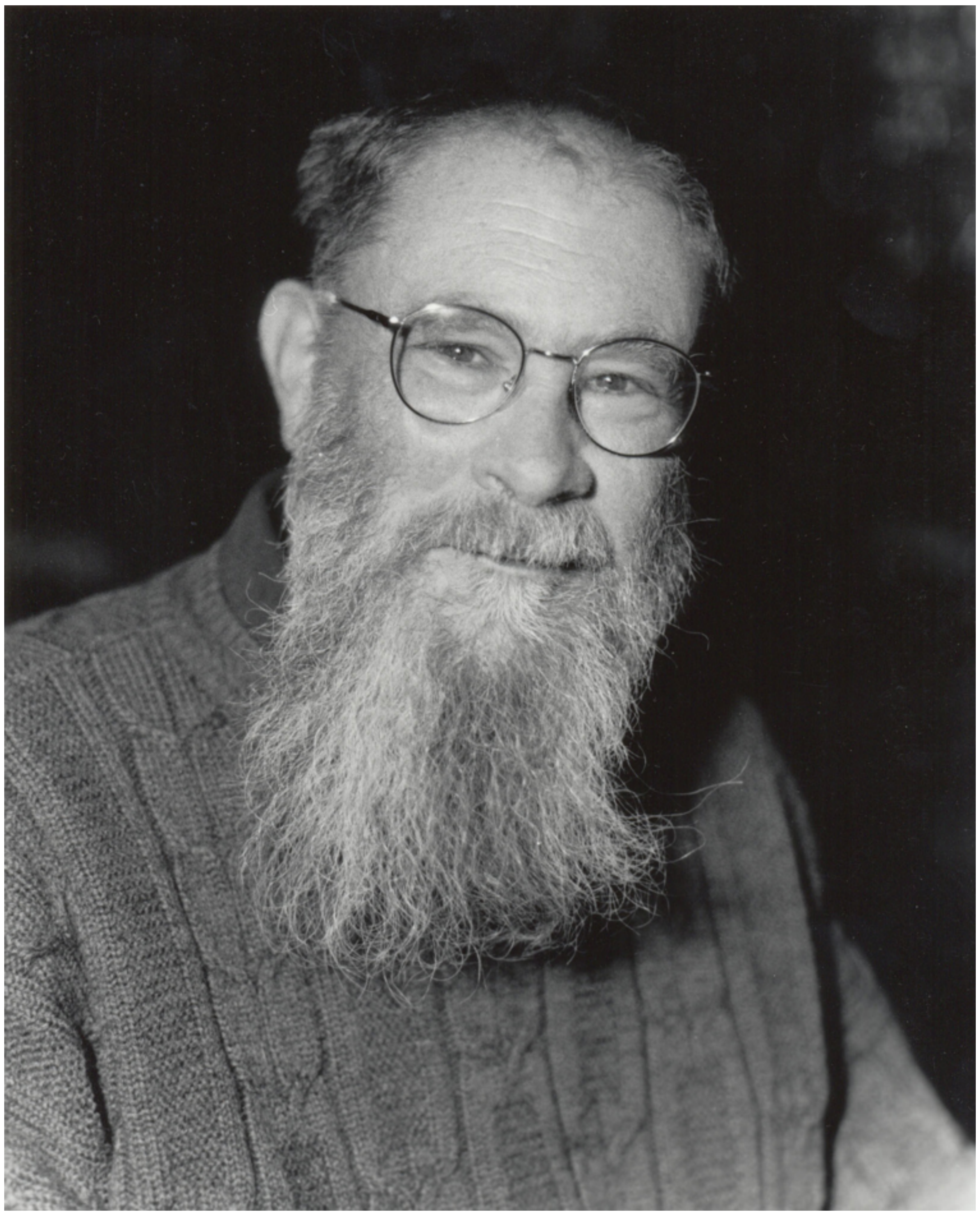
28 Aug 2000

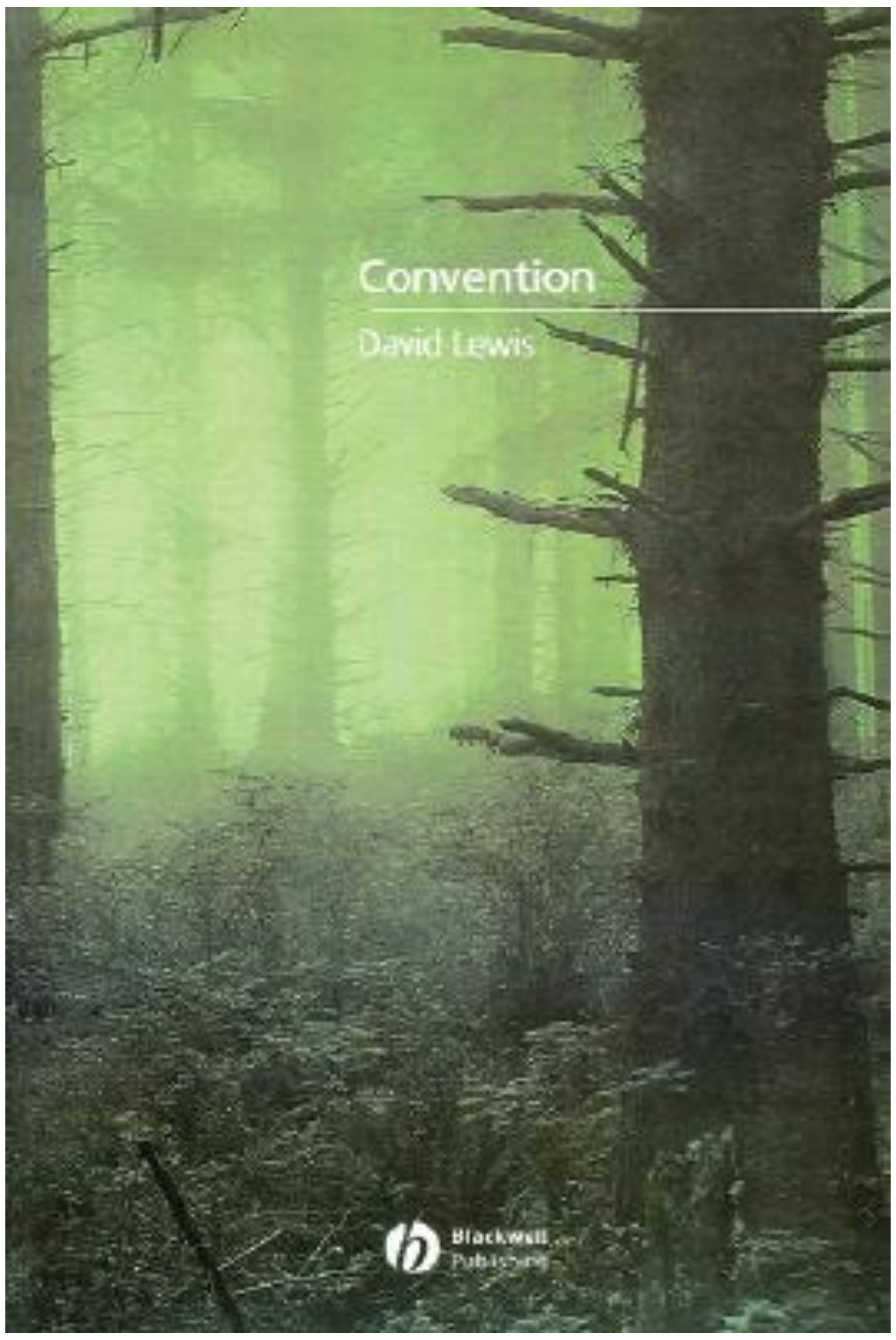
20 Oct 2010

http://lemonde.fr/

Synchronie/Asynchronie -> nous amènera vers la diachronie
URI est le concept au coeur du system. C’est ce qui permet le creation de systemes distribués: parce que chaque companie, chaque individu peut acheter un nom de domaine et ne pas avoir a synchroniser avec un objet central. Cela permet le developmenet en parallel de pages. Mais comment c’est uri peuvent elles etre utilisés? Comment ce
metastabilisent-ils?


juliet.name
blogs.sun.com
The Sun BabelFish Blog
Don't panic !
MONDAY JUL 20, 2009
two months of foaf+ssl talks
For the past one and a half months I have been traveling through Europe giving talks on foaf+ssl, the RESTful authe
protocol for the Social Web. Here is a short summary of where I have been.
23 June, Metalab Hacker's Club, Vienna
nicecupoftea.org
https://nicecupoftea.org/
bblfish.net
bank.com
lemonde.fr
tout.lemonde.fr
28 Aug 2000
Le Monde.fr
Sarkozy ordonne le déblocage des dépôts de carburant
20 Oct 2010
variant
variant
http://lemonde.fr/




Convention
David Lewis
Blackwell Publishing

Donc revenons finalement a David Lewis et ca these doctorale de David Lewis sur la Convention pulblié en 1969 et qui comme vous pourrez le voir sur le site plato.stanford.edu a été discuté en profondeur pendant les 40 dernieres années.

Convention

- la rencontre de deux (ou plus de) personnes
- quand on raccroche le téléphone, qui rapelle?
- Hume: deux personnes rament sur un bateau
- de quel coté faut-il conduire?
- quel commodité utiliser comme bien d'échange

Tous ces exemples vont etre réunis par Lewis et interprété par la théorie des jeux. La théorie des jeux a été surtout utilisé a cet époque pour analyser les jeux de conflits, mais explique t'il la théorie des jeux s'applique aussi bien au problémes de coordination, ou l'important est de trouver des equilibres entre le désir d'agents qui vont amener a un systeme métastable.

Choix de point de rendez-vous

1.5 meet 1.5	.2 .5	0 .5
.5 .2	1.2 meet 1.2	0 .2
.5 .0	.2 0	1 meet 1

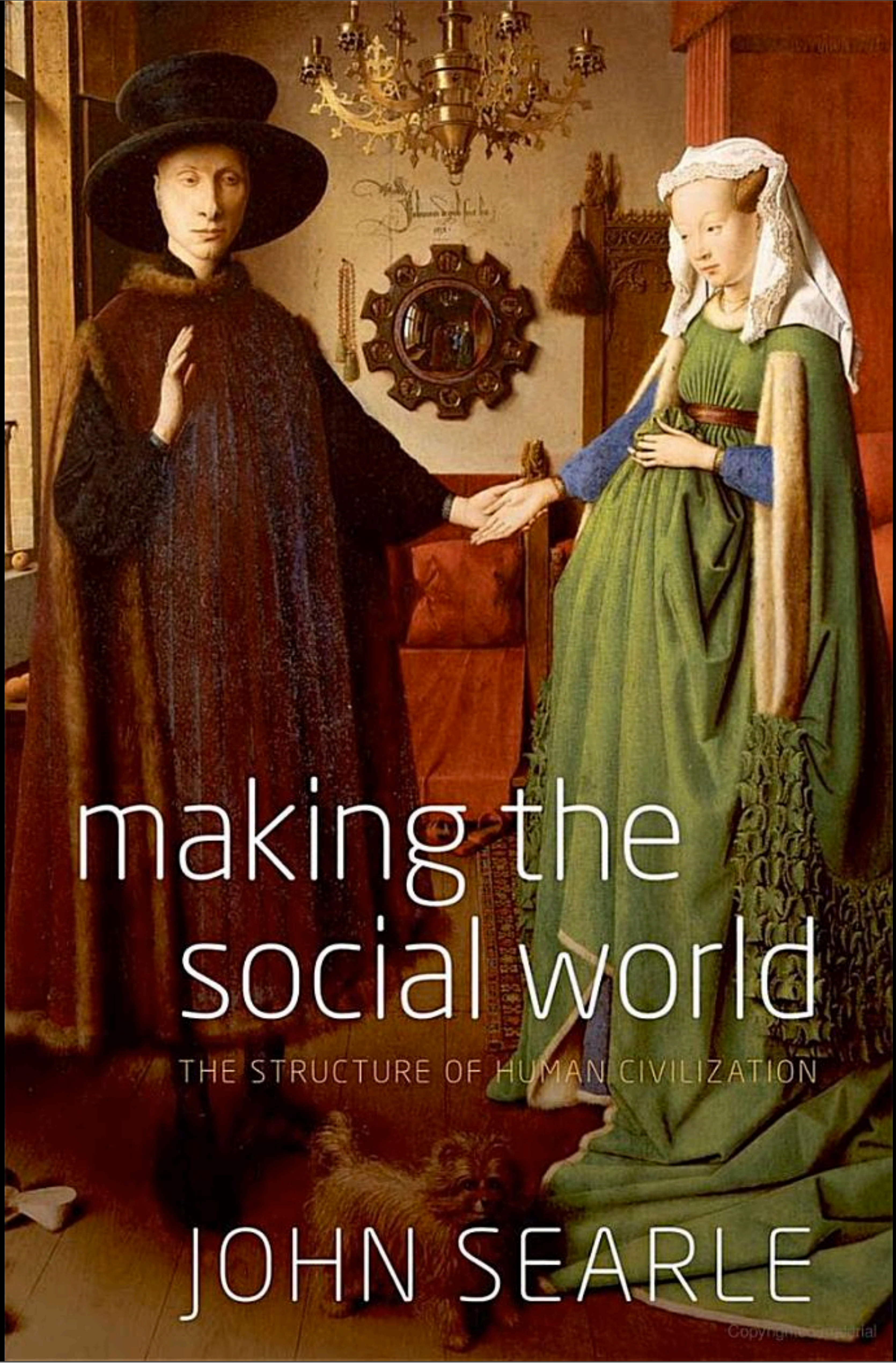
Imaginons par exemple que deux personnes veulent se rencontrer. Ils peuvent se rencontrer a plusieurs endroits differents, et ce n’est pas tellement important où ils se rencontrent. Le meilleur endroit pour moi d’aller c’est d’aller ou tu veut aller, et pour toi d’aller la ou je vais aller. (c’est un probleme de coordination)
il ne faut pas prendre trop au serieux les nombres ici. Ce sont

p.42 of Convention

A regularity R of the behavior of members of a population P when they are agents in a recurrent situation S is a convention if and only if, in any instance of S among members of P
(1) everyone conforms to R
(2) everyone expects everyone else to conform to R
(3) everyone prefers to conform to R on condition that others do, since S is a coordination problem and uniform conformity to R is a proper coordination equilibrium in S

Once the process gets started, we have a metastable self-perpetuating system of preferences, expectations, and actions capable of persisting indefinitely.

Aberlard “senso composito”/”senso diviso” qui permet de reformuler le system dessus en terme ou les individus n’ont pas necessairement besoin d’etre conscient de ces désirs.

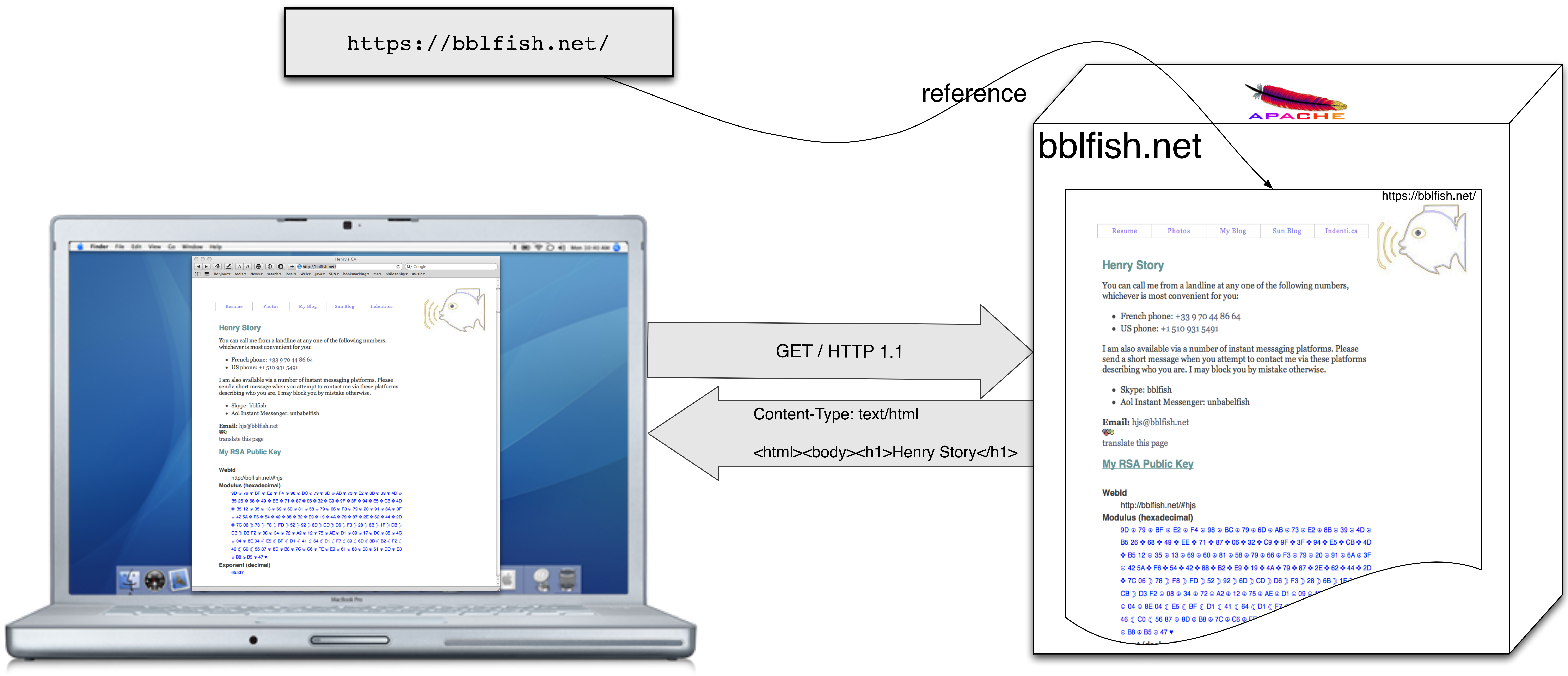


(this is a book cover not licences under CC I believe)
Linking across sites is a trust issue that fragilises the publisher/speaker/agent (to use a term coined by the psychoanalyst/painter Bracha Ettinger) by making her dependent on the behaviour of other players in the space, but also strengthens her if the trust is rewarded. This is the same in any social endeavour from playing music, to building bridges, to marriage, to shopping, to electing presidents, as John Searle emphasises so well in his latest book “Making the Social World, The Structure of Human Civilisation”. The Web as a communication mechanism, can be no other than social, since language and civilisation itself is thus.

Speaking of Searle. He is the author of the famous “Chinese Room experiment” where he imagines himself in a room receiving symbols from the outside and manipulating it by following a set of purely syntactical rules, by following a huge rule book, in such a way that the reply he returns would count as a good answer in Chinese. As he points out in his online 2010 lectures, the key point is that Turing Machines are purely syntactical machines. But there is something striking here: the Web is a set of interconnected machines, Turing machines perhaps? just processing symbols. Yet the web does clearly have a minimal semantics: a browser can fetch a document placed on a server on the other side of the world; documents link to each other; ...

It could be argued, and I think Searle would argue, that it is we who give those machines their semantics, by tying them into large telecommunication structures, that follow carefully established protocols, which form expectations on which actors start basing themselves. It is quite staggering when we think of just how big some of these human built structures are, how much knowledge and coordination they involve. It is clearly with the purpose of referring to things that URLs are built, this is how web developers think of them when using them, this is what people think when clicking on a link. That behind this the turing machines just shift bits and bytes while reductionistically true, may also make things suddenly seem very mysterious. Similarly explaining human behaviour in terms of Neuron firing may at times be useful, but mostly not that helpful in everyday life.

REST as “Speech”/Document Acts



https://bblfish.net/

reference

bblfish.net

GET / HTTP 1.1

Content-Type: text/html

<html><body><h1>Henry Story</h1>

https://bblfish.net/

Henry Story

You can call me from a landline at any one of the following numbers, whichever is most convenient for you:

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- US phone: +1 510 931 5491

I am also available via a number of instant messaging platforms. Please send a short message when you attempt to contact me via these platforms describing who you are. I may block you by mistake otherwise.

- Skype: bblfish
- Aol Instant Messenger: unbabelfish

Email: hjs@bblfish.net

translate this page

My RSA Public Key

WebId

http://bblfish.net/#hjs

Modulus (hexadecimal)

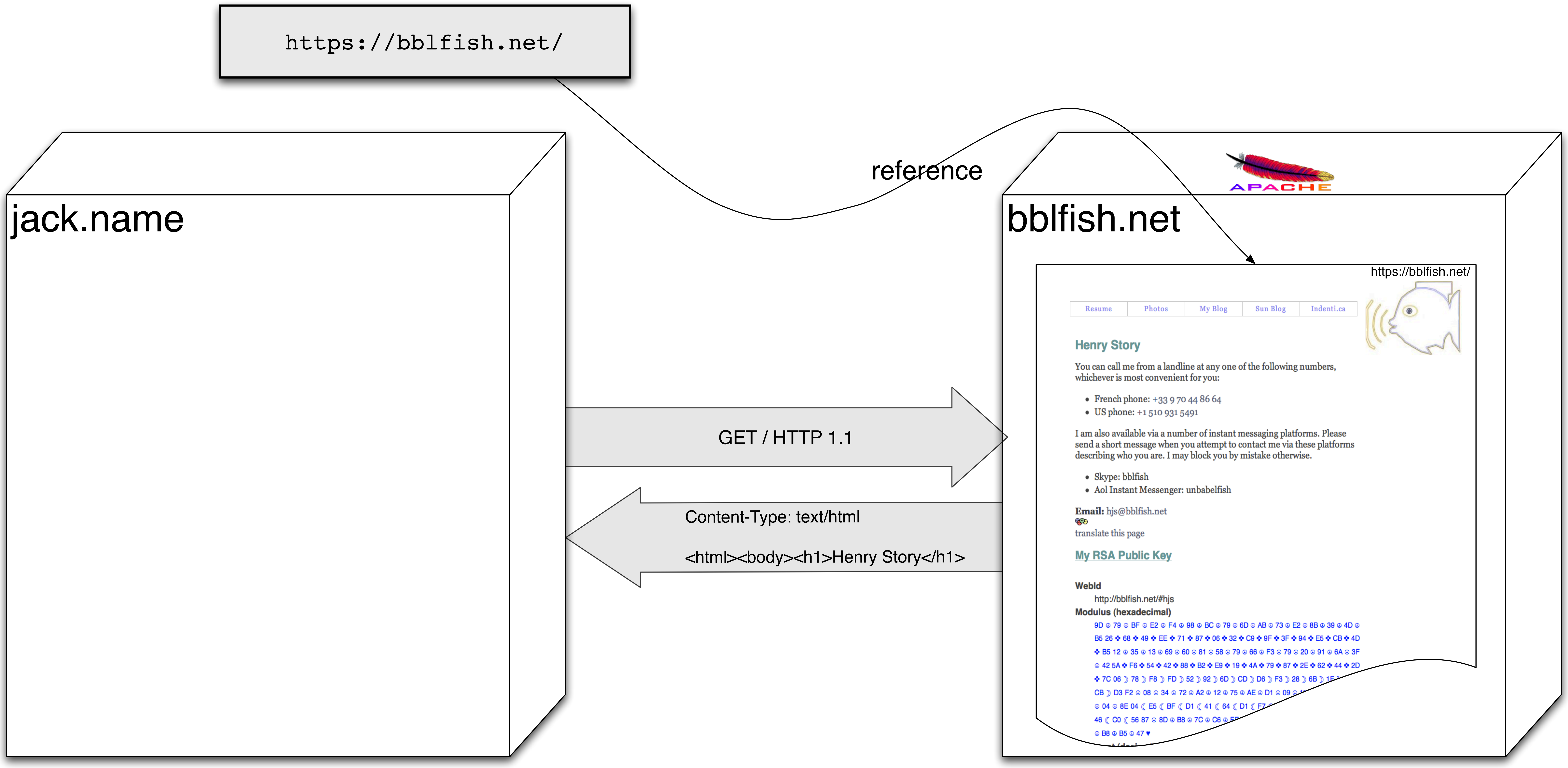
9D ☮ 79 ☮ BF ☮ E2 ☮ F4 ☮ 98 ☮ BC ☮ 79 ☮ 6D ☮ AB ☮ 73 ☮ E2 ☮ 8B ☮ 39 ☮ 4D ☮
B5 26 ✤ 68 ✤ 49 ✤ EE ✤ 71 ✤ 87 ✤ 06 ✤ 32 ✤ C9 ✤ 9F ✤ 3F ✤ 94 ✤ E5 ✤ CB ✤ 4D
✤ B5 12 ☮ 35 ☮ 13 ☮ 69 ☮ 60 ☮ 81 ☮ 58 ☮ 79 ☮ 66 ☮ F3 ☮ 79 ☮ 20 ☮ 91 ☮ 6A ☮ 3F
☮ 42 5A ✤ F6 ✤ 54 ✤ 42 ✤ 88 ✤ B2 ✤ E9 ✤ 19 ✤ 4A ✤ 79 ✤ 87 ✤ 2E ✤ 62 ✤ 44 ✤ 2D
✤ 7C 06 ☽ 78 ☽ F8 ☽ FD ☽ 52 ☽ 92 ☽ 6D ☽ CD ☽ D6 ☽ F3 ☽ 28 ☽ 6B ☽
CB ☽ D3 F2 ☮ 08 ☮ 34 ☮ 72 ☮ A2 ☮ 12 ☮ 75 ☮ AE ☮ D1 ☮ 09 ☮
☮ 04 ☮ 8E 04 ☾ E5 ☾ BF ☾ D1 ☾ 41 ☾ 64 ☾ D1 ☾
46 ☾ C0 ☾ 56 87 ☮ 8D ☮ B8 ☮ 7C ☮ C6 ☮
☮ B8 ☮ B5 ☮ 47 ♥

John Searle book, builds on his work on Speech Acts. The human world he argues there is built coordination which is only possible at such a scale because of language and its use. As we are looking at the web we can perhaps see something similar here. At least it may help us open up some new ways of thinking of it.

First we can think of all computers on the Web as agents in so far as they can issue and respond to requests. The interfaces used on the Web are particularly simple ones, which is what enabled this system to grow so quickly to the scale it has. The main Speech/Document act is the GET request, whereby one computer agent asks another one for a REPRESENTATION of a resource.

Consider for example a Browser in the illustration above (also known as a User Agent) requesting the web page http://bblfish.net/ . To do this the User Agent opens up a TCP connection to port 80 of the bblfish.net machine and issues the request “GET / HTTP 1.1” followed usually by some further metadata describing the capabilities of the browser. The Server bblfish.net running an Apache httpd daemon perhaps - there is a lot of other software implementing the protocol - looks up the file in the file system, or generates one on the file from data in a relational database and returns the HyperText Markup file preceded by a few headers of which the most important perhaps is the mime type of the content, which enables the browser to select both the correct parser for it and to determine how to display or use the information. The html usually has pointers to further embedded images which will then be fetched the same way. Even a document on the Web is not just one file, but a graph of interlinked documents!

Client/Server are roles, which any agent can play, speech acts


https://bblfish.net/
reference
jack.name
APACHE
bblfish.net
https://bblfish.net/
GET / HTTP 1.1
Content-Type: text/html
<html><body><h1>Henry Story</h1>
Resume
Photos
My Blog
Sun Blog
Indenti.ca
translate this page

Henry Story

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My RSA Public Key

WebId
http://bblfish.net/#hjs

Modulus (hexadecimal)
9D ☮ 79 ☮ BF ☮ E2 ☮ F4 ☮ 98 ☮ BC ☮ 79 ☮ 6D ☮ AB ☮ 73 ☮ E2 ☮ 8B ☮ 39 ☮ 4D ☮
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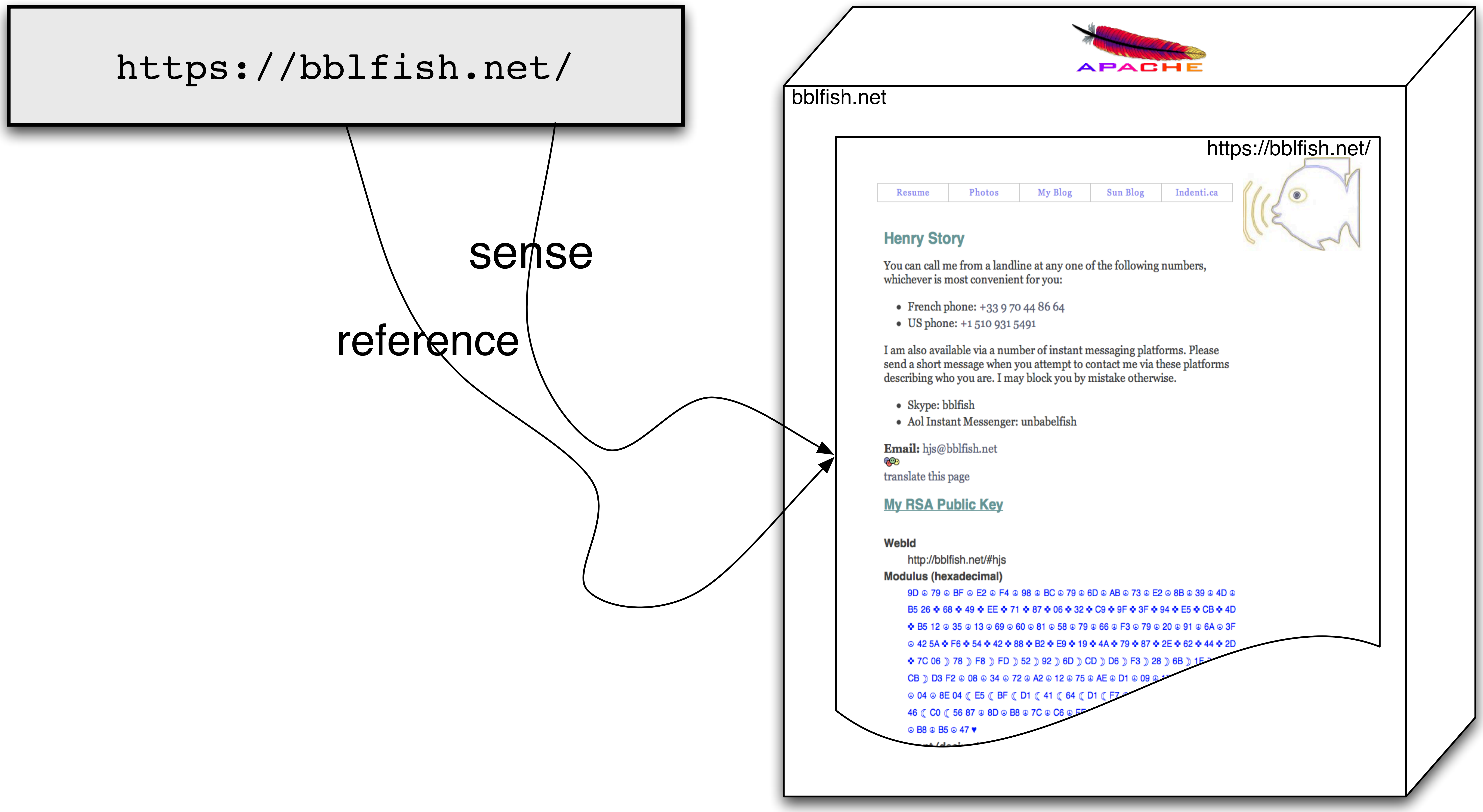
✤ 7C 06 ☽ 78 ☽ F8 ☽ FD ☽ 52 ☽ 92 ☽ 6D ☽ CD ☽ D6 ☽ F3 ☽ 28 ☽ 6B ☽ 1E
CB ☽ D3 F2 ☮ 08 ☮ 34 ☮ 72 ☮ A2 ☮ 12 ☮ 75 ☮ AE ☮ D1 ☮ 09 ☮
☮ 04 ☮ 8E 04 ☾ E5 ☾ BF ☾ D1 ☾ 41 ☾ 64 ☾ D1 ☾ F7
46 ☾ C0 ☾ 56 87 ☮ 8D ☮ B8 ☮ 7C ☮ C6 ☮
☮ B8 ☮ B5 ☮ 47 ♥

There is nothing in the HTTP protocol that specifies that the client has to be a laptop and the server a machine without a User Interface. The Client/Server distinctions are just roles that computer agents play in the protocol. To make this clear I have here replaced the laptop with a box, which could be the same laptop, or another server. Search engines after all follow exactly the same protocol to crawl the web for information before handing their discoveries to indexing software.



`https://bblfish.net/`

sense

reference

bblfish.net

https://bblfish.net/

Resume | Photos | My Blog | Sun Blog | Indenti.ca

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☮ B8 ☮ B5 ☮ 47 ♥

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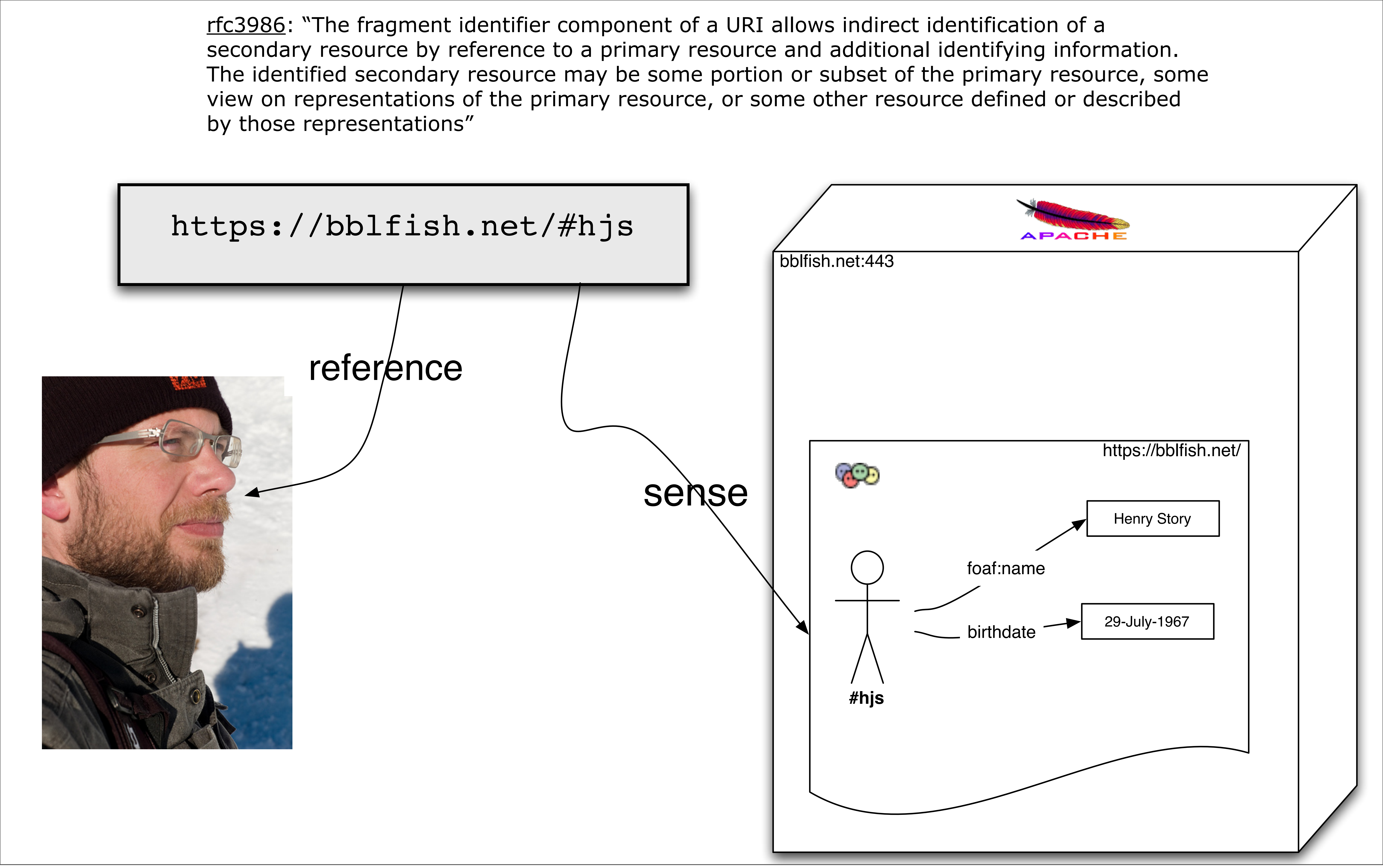
--- Notes ---
For a lot more details on Frege see “Frege's contribution to the Philosophy of Language” by Richard G. Heck and Robert May
http://frege.brown.edu/heck/pdf/published/FregeContribution.pdf



rfc3986: “The fragment identifier component of a URI allows indirect identification of a secondary resource by reference to a primary resource and additional identifying information. The identified secondary resource may be some portion or subset of the primary resource, some view on representations of the primary resource, or some other resource defined or described by those representations”

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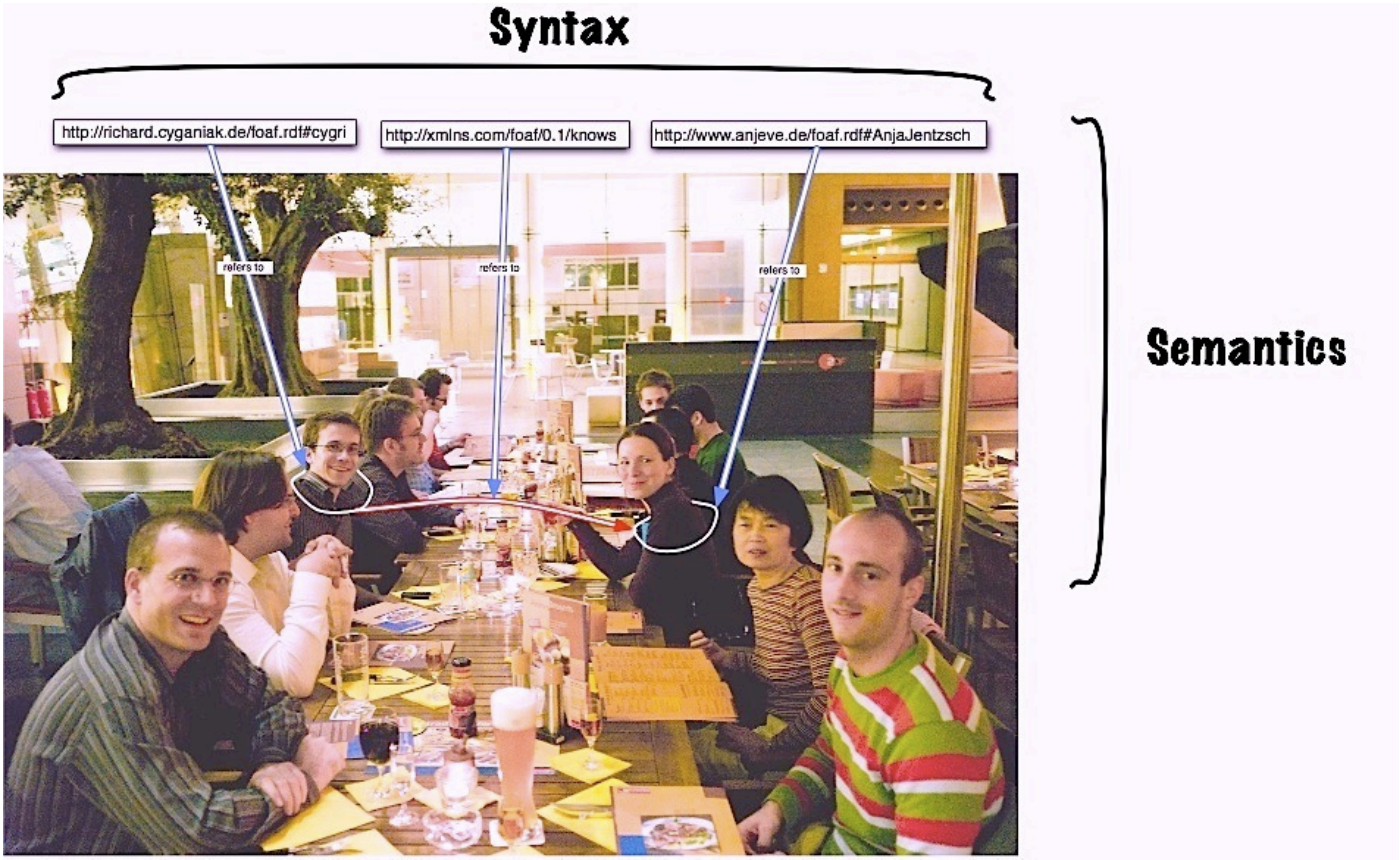
RFC 3986: http://www.apps.ietf.org/rfc/rfc3986.html#sec-3.5


Syntax
http://richard.cyganiak.de/foaf.rdf#cygri
http://xmlns.com/foaf/0.1/knows
http://www.anjeve.de/foaf.rdf#AnjaJentzsch
refers to
refers to
refers to
Semantics

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In the case of the semantic web we just need to imagine the world composed of things and binary relations between things. Here we have in the Photo which I took a few years back in Berlin two people Richard and Anja, related by one relation. This relation is the relation named by the URI http://xmlns.com/foaf/0.1/knows .

So the top layer of three successive URIs forms an RDF sentence. These are just strings. The relation in the world is what is satisfies the sentence according to this interpretation. The relation between the words and the world (again a binary relation!) is what semantics is about.

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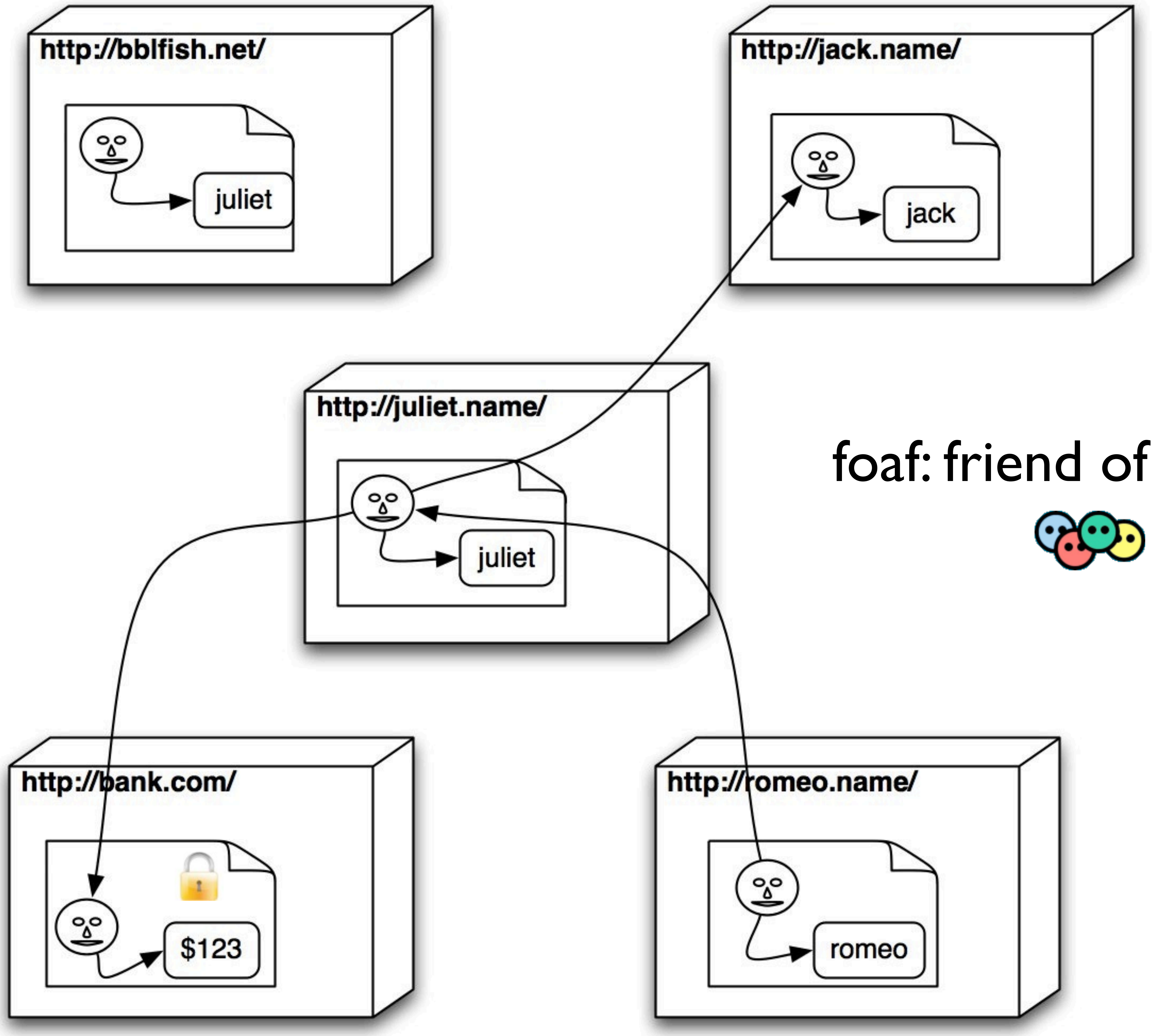
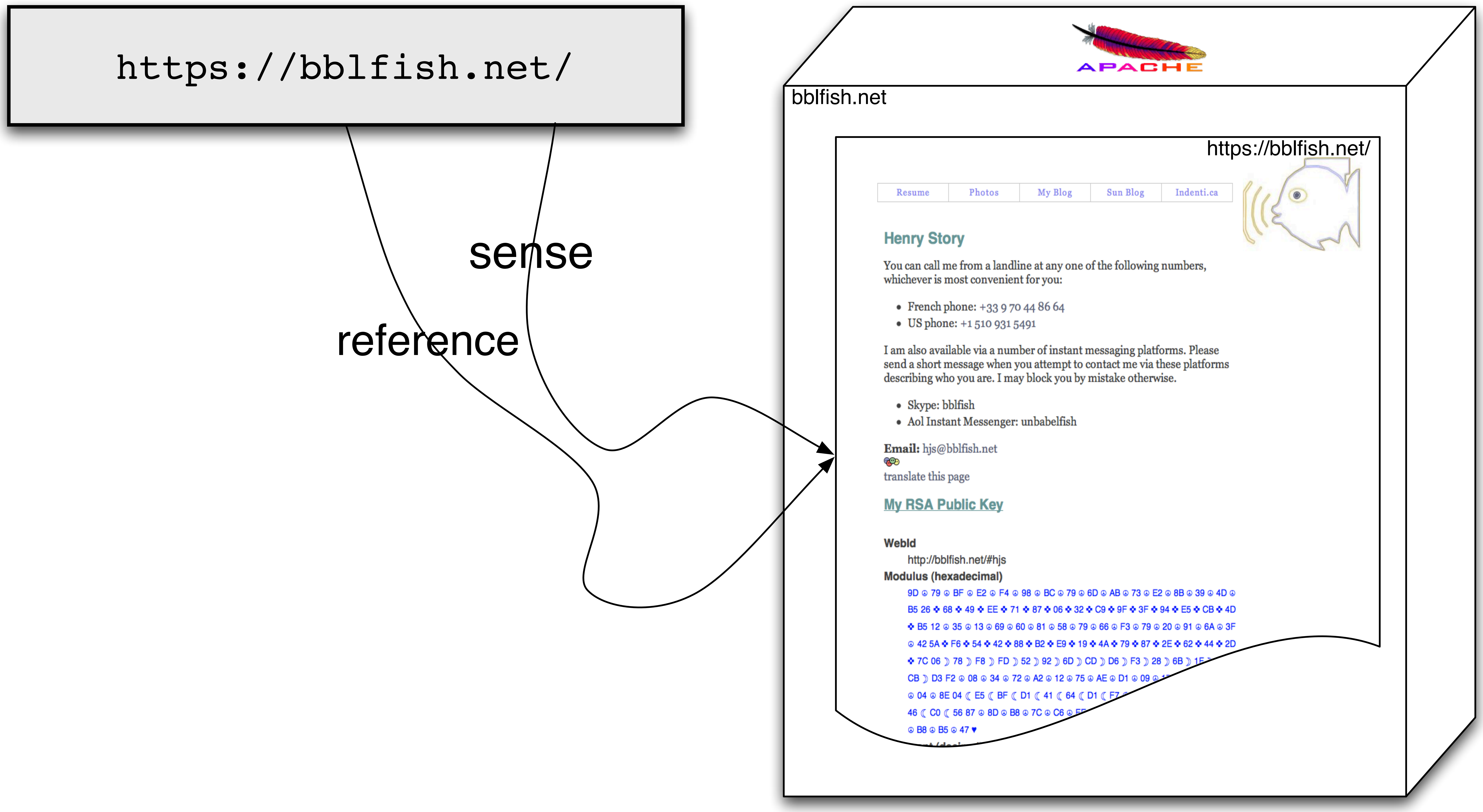
--- Reference ---
Picture first published in "syntax and semantics the relation between xml and rdf", Dec 10, 2005
http://blogs.sun.com/bblfish/entry/the_relation_between_xml_and


http://bblfish.net/
juliet
http://jack.name/
jack
http://juliet.name/
juliet
http://bank.com/
$123
http://romeo.name/
romeo

foaf: friend of a friend

With this in place it now becomes possible to link not just documents, but also to related people via those documents into machine readable social networks distributed across servers. Juliet can publish information about herself as well as relationships of various kinds (friendship, kinship, etc) that she has with other people across the web. These in turn can confirm those relationships by publishing profiles linking back to Juliet's via what we can call her WebID.



Henry Story

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translate this page

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WebId
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46 ☾ C0 ☾ 56 87 ☮ 8D ☮ B8 ☮ 7C ☮ C6 ☮
☮ B8 ☮ B5 ☮ 47 ♥

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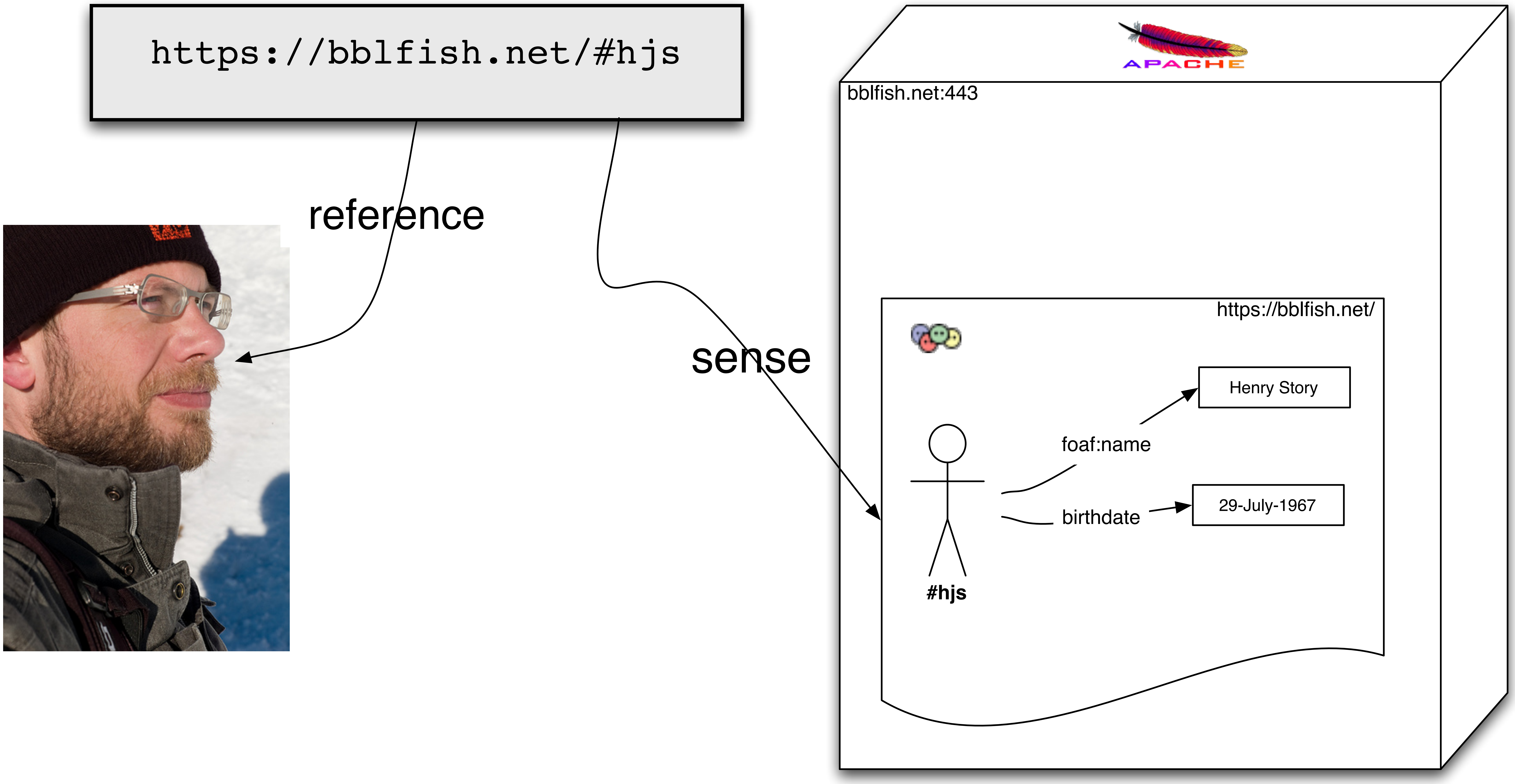

https://bblfish.net/#hjs

reference

sense

bblfish.net:443

https://bblfish.net/

Henry Story

foaf:name

birthdate

29-July-1967

#hjs

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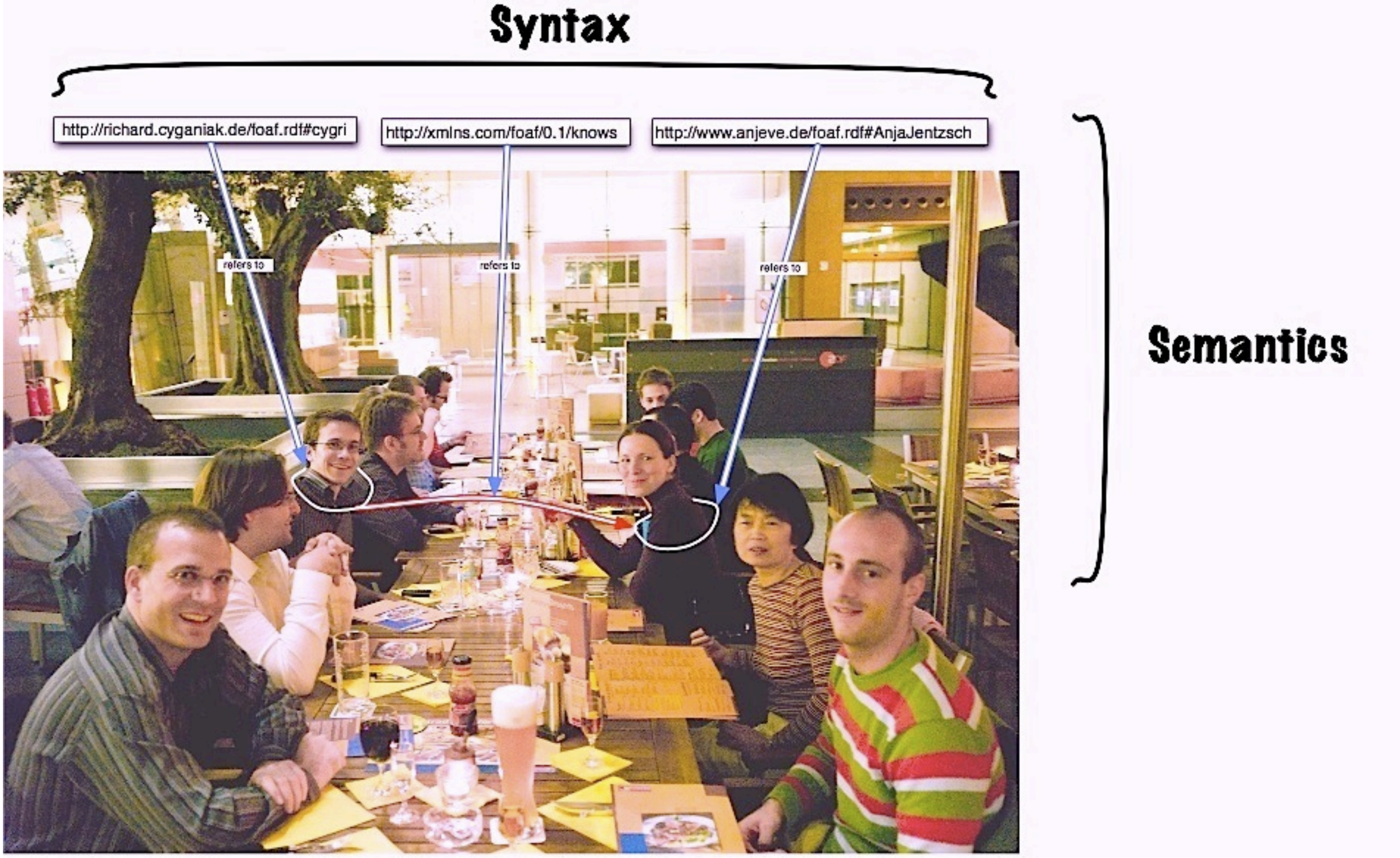

Syntax

http://richard.cyganiak.de/foaf.rdf#cygri

http://xmlns.com/foaf/0.1/knows

http://www.anjeve.de/foaf.rdf#AnjaJentzsch

Semantics

Thursday, 20 September 12

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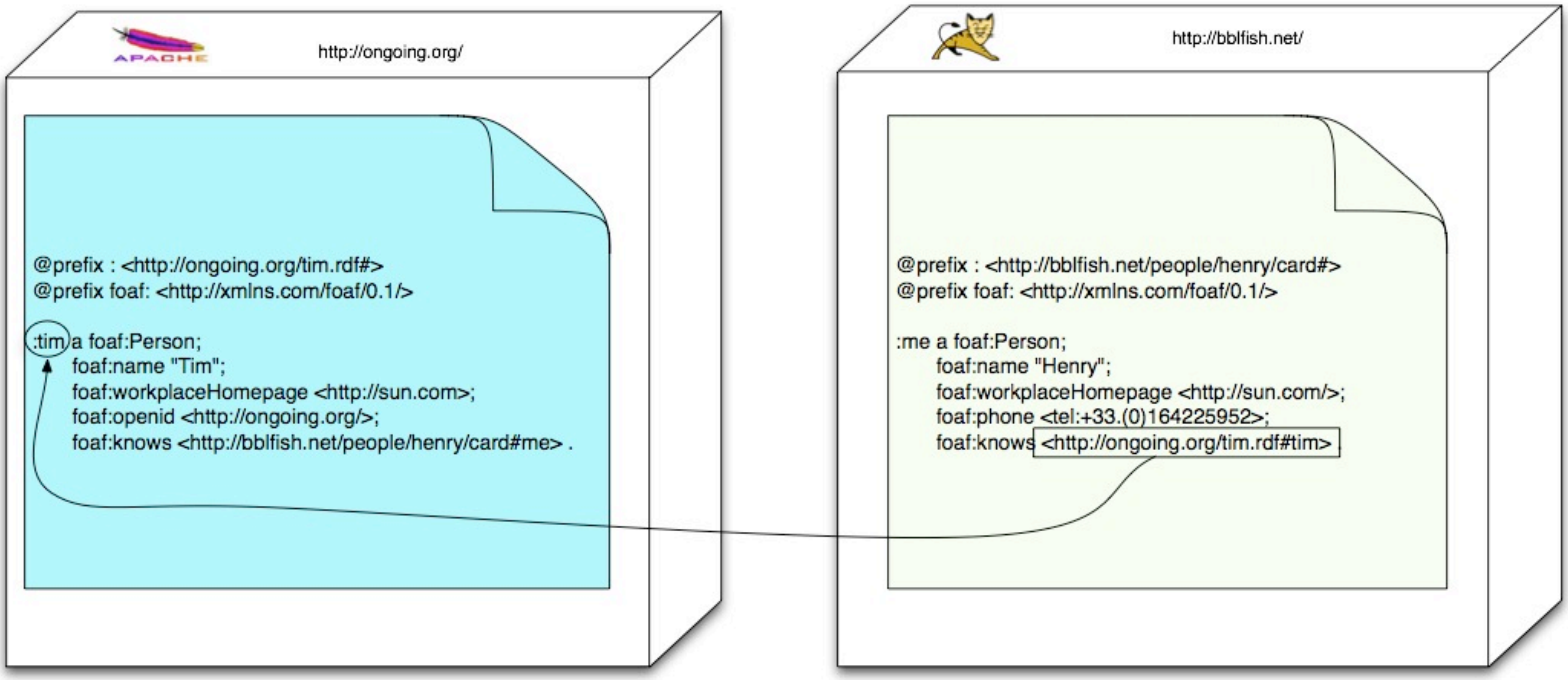


http://ongoing.org/

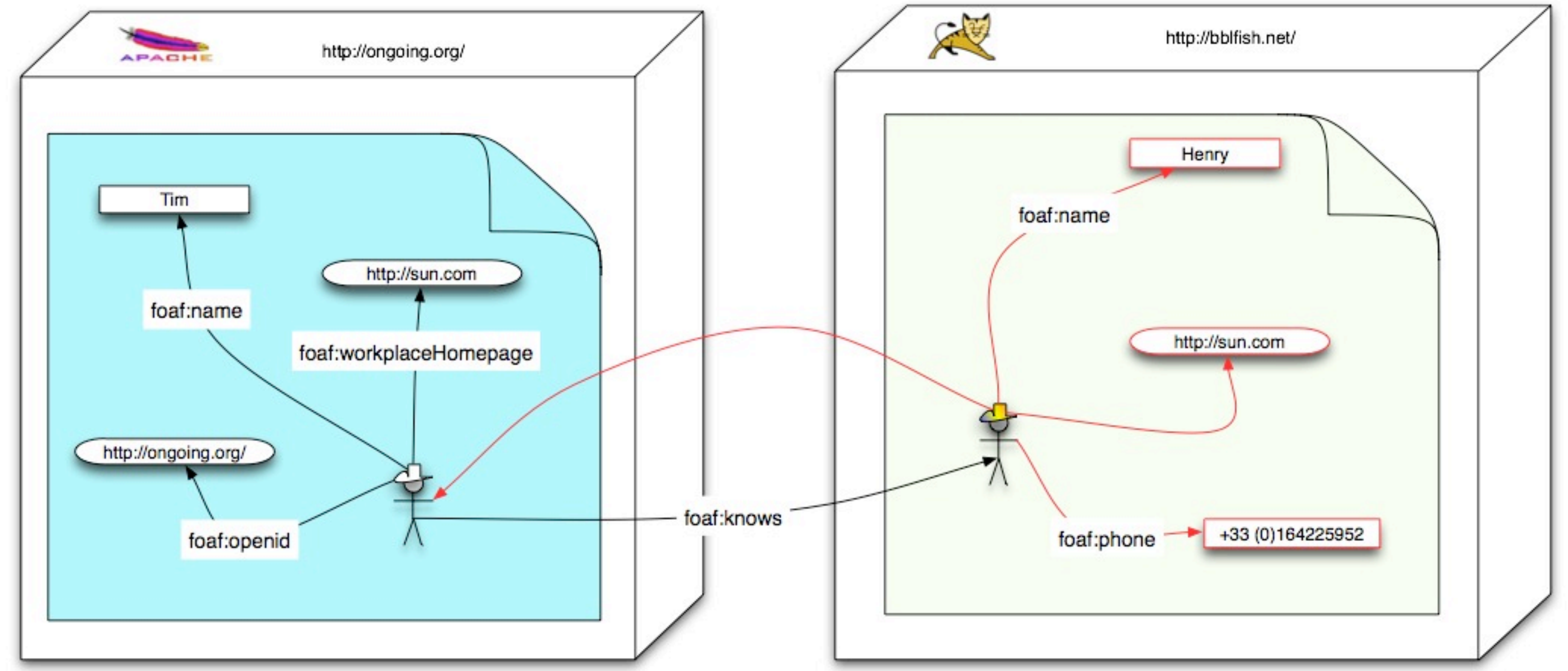
```
@prefix : <http://ongoing.org/tim.rdf#>
@prefix foaf: <http://xmlns.com/foaf/0.1/>

:tim a foaf:Person;
     foaf:name "Tim";
     foaf:workplaceHomepage <http://sun.com>;
     foaf:openid <http://ongoing.org/>;
     foaf:knows <http://bblfish.net/people/henry/card#me> .
```

http://bblfish.net/

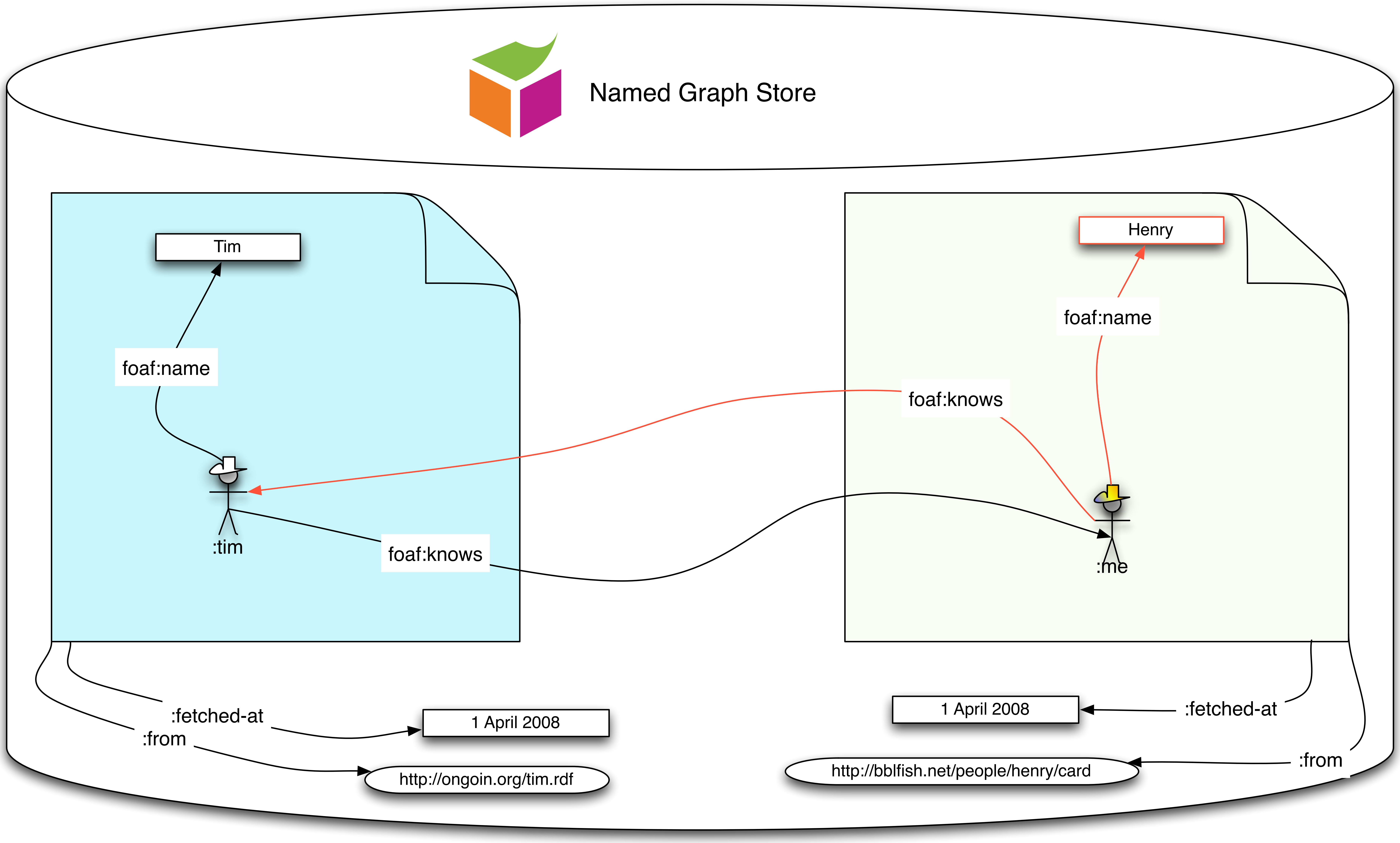
```
@prefix : <http://bblfish.net/people/henry/card#>
@prefix foaf: <http://xmlns.com/foaf/0.1/>

:me a foaf:Person;
     foaf:name "Henry";
     foaf:workplaceHomepage <http://sun.com/>;
     foaf:phone <tel:+33.(0)164225952>;
     foaf:knows <http://ongoing.org/tim.rdf#tim> .
```

Thursday, 20 September 12

So let us now consider how the Address Book works in a bit more detail. Let us imagine we have two servers on the web one by Tim Bray one of the authors of the RDF/XML spec, a famous blogger, and semantic web skeptic, and one by me. Let us imagine that one day Tim Bray will give up his skepticism and just use the semantic web by publishing his foaf profile in some document such as the one shown here, which is a readable non XML notation knows as Turtle a subset of N3. The two documents describe two people and link them by the knows relation. Clearly there are no arrows going from one server to the next. The link is made by the use of URIs of course.


http://ongoing.org/
Tim
foaf:name
http://sun.com
foaf:workplaceHomepage
http://ongoing.org/
foaf:openid
foaf:knows
http://bblfish.net/
Henry
foaf:name
http://sun.com
foaf:phone
+33 (0)164225952

But there is no harm in picturing the documents as two graphs that link to each other as shown here. Each person is described by his relationship to a few other resources, be it an openid a telephone number or a name. And each graph links each primary topic of the graph - that is Tim Bray on the left - to the primary topic of the graph of the other graph via the foaf:knows relation.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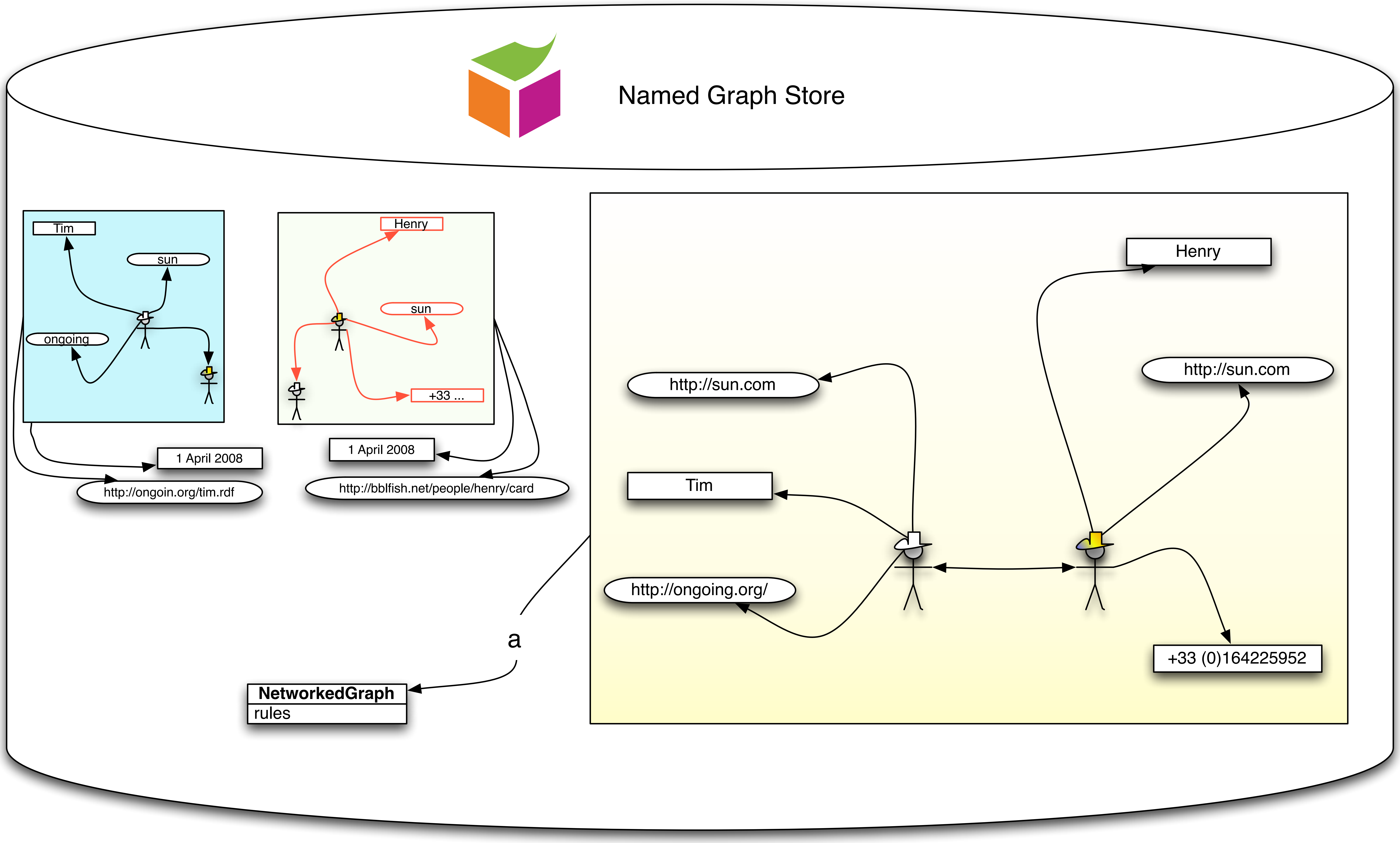
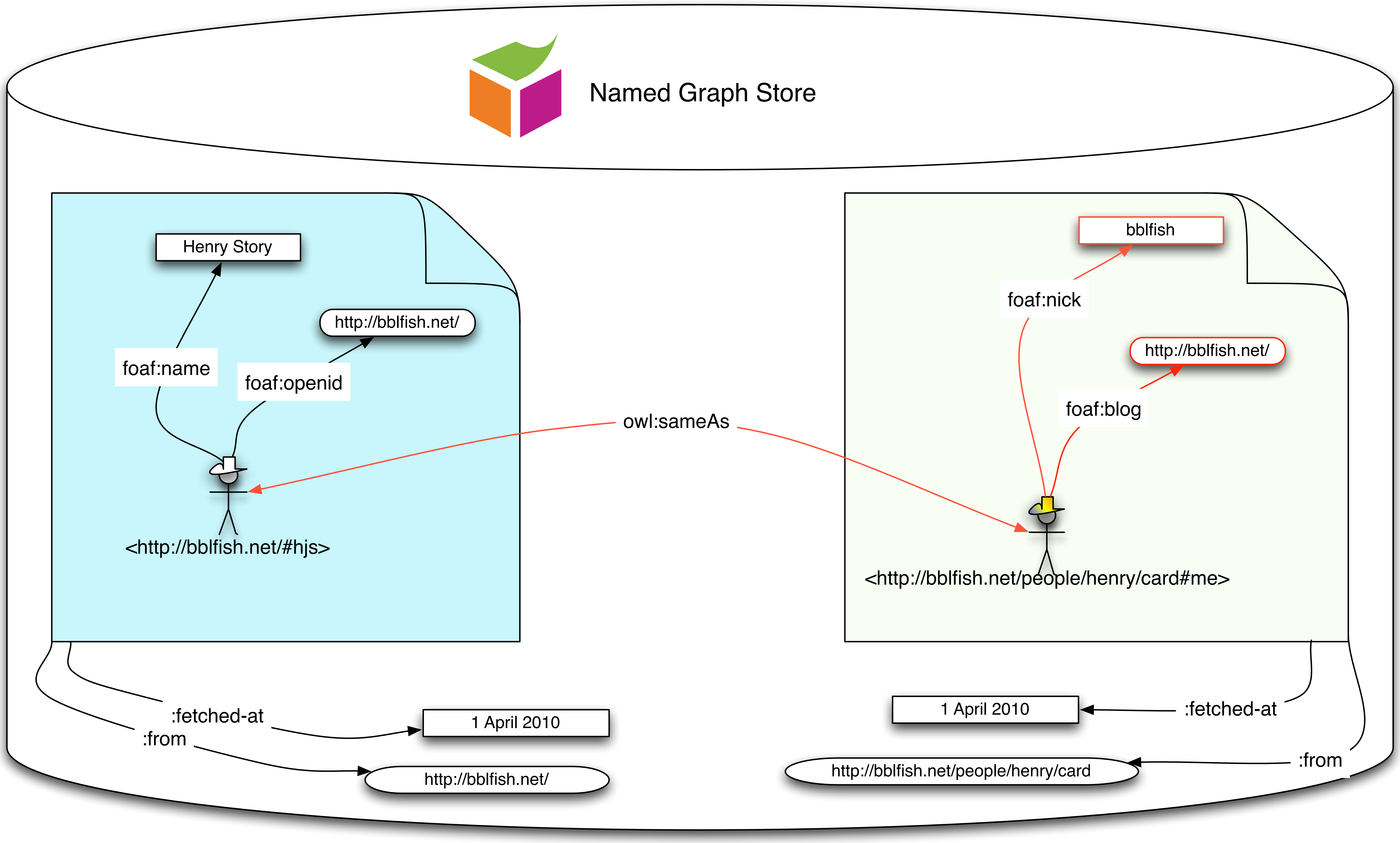
foaf:name
:tim
foaf:knows
Henry
foaf:name
foaf:knows
:me
:fetched-at
:from
1 April 2008
http://ongoin.org/tim.rdf
1 April 2008
:fetched-at
http://bblfish.net/people/henry/card
:from

Thursday, 20 September 12

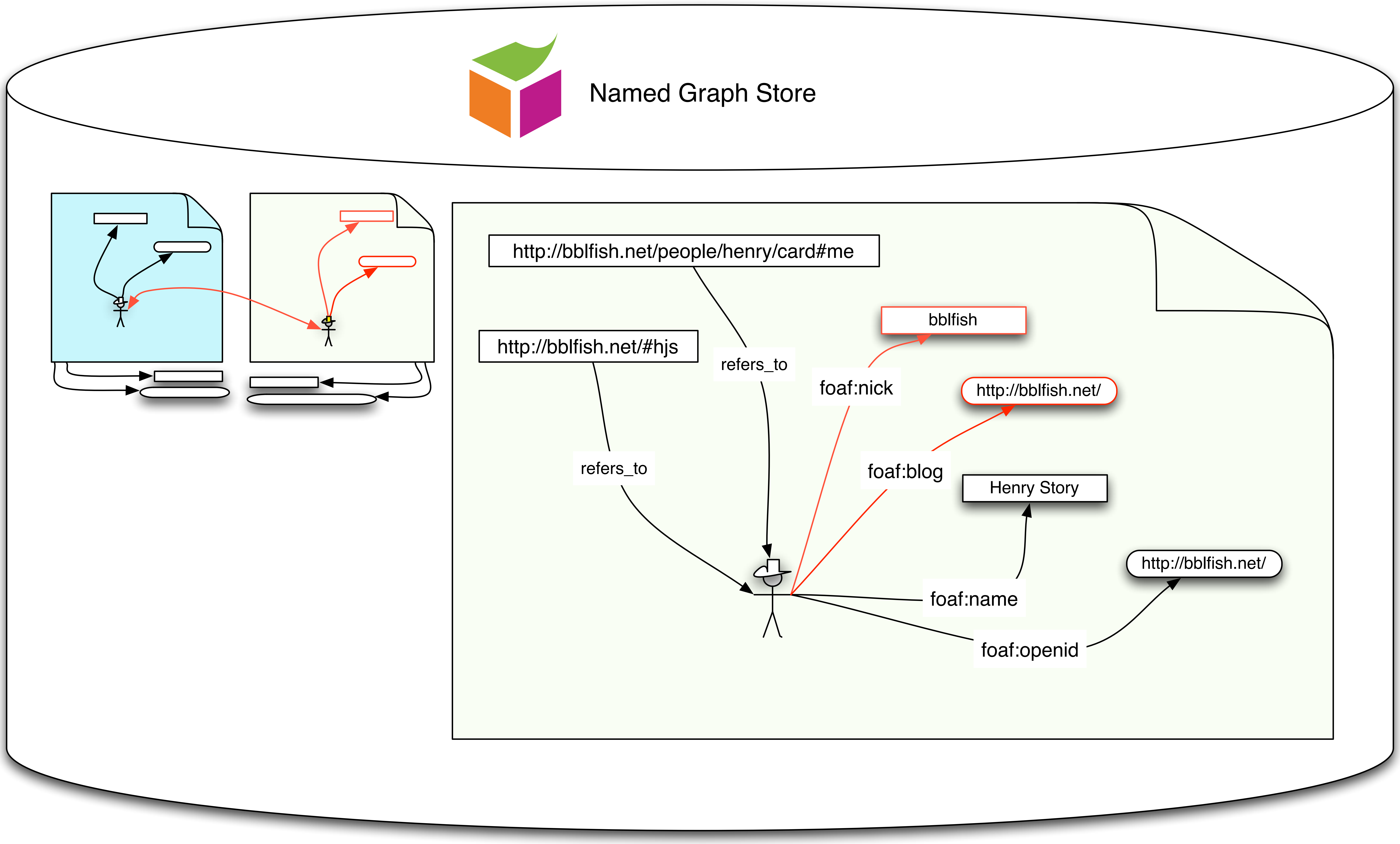
What the Semantic Address Book does is to fetch those two graphs using the HTTP protocol, which it then stores in a semantic database (knows as a quad store) whilst adding metadata on the graph relations themselves. That is the semantic database makes sure it can keep track of where and when it found the information.


Named Graph Store
Tim
sun
ongoing
1 April 2008
http://ongoin.org/tim.rdf
Henry
sun
+33 ...
1 April 2008
http://bblfish.net/people/henry/card
a
NetworkedGraph
rules
Henry
http://sun.com
http://sun.com
Tim
http://ongoing.org/
+33 (0)164225952

The Address Book can then merge the information from the two graphs to produce a new merged graph. Where one could not ask what the name of the friends of the primary topic were in the original mini graphs, one can do this now. Here one can ask for example what Henry's friends' names are using a query language such as SPARQL. The answer here will be "Tim". By merging the graph we deepen our ability to query data, we can explore a larger network and we can discover new relations that were not available in either of them alone. The Power of the Semantic web lies exactly here: it is one could say the mathematics or logic of information merging. Everything in the semantic web is designed to make this easy: from the simple relational data structure, to the open world assumption, to the URI reference distinction.


Named Graph Store
Henry Story
foaf:name
http://bblfish.net/
foaf:openid
<http://bblfish.net/#hjs>
owl:sameAs
bblfish
foaf:nick
http://bblfish.net/
foaf:blog
<http://bblfish.net/people/henry/card#me>
:fetched-at
1 April 2010
:from
http://bblfish.net/
1 April 2010
:fetched-at
http://bblfish.net/people/henry/card
:from

This merging of information can help us understand even more clearly the importance of reference on the semantic web from a computational perspective.
Imagine for example that our Address Book had found the following two graphs on the web, each of them making an identity claim. The owl:sameAs relation is this identity relation. From the law of indiscernibility of identity it follows that the object, however named must have all the properties truly asserted of it.

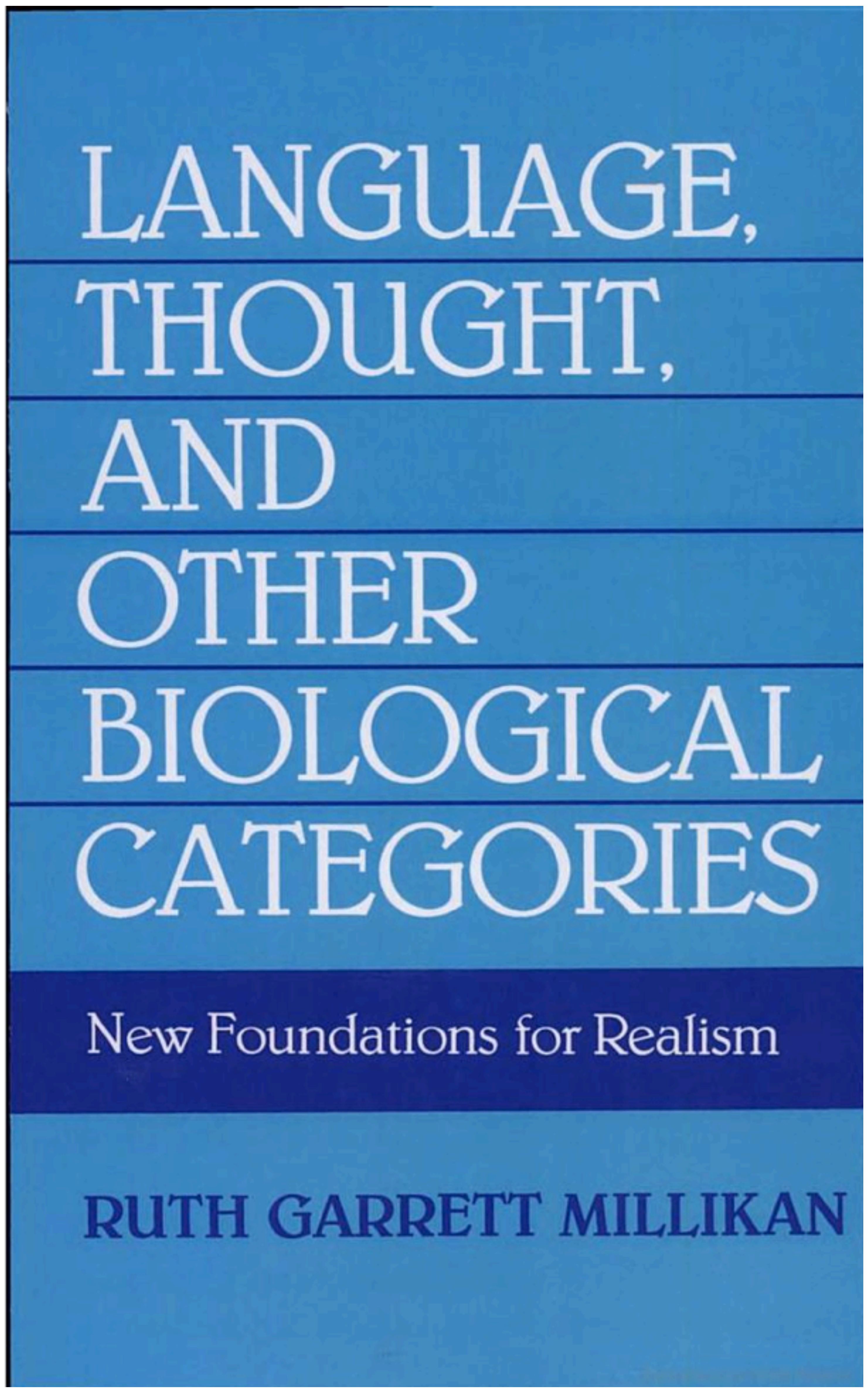

Named Graph Store
http://bblfish.net/people/henry/card#me
http://bblfish.net/#hjs
refers_to
refers_to
foaf:nick
bblfish
http://bblfish.net/
foaf:blog
Henry Story
foaf:name
http://bblfish.net/
foaf:openid

The merged graph therefore can merge the relations from both graphs onto the object referred to by the two URIs. Clearly the two URIs are distinguishable. They have different number of characters for one. Their referent is therefore clearly different from the URI. It is the referent of the names that is what gets merged.

The concept of reference is therefore essential to making merging of information possible. And since merging information is what allows the powerful network effects to take place, it is an essential tool of thought.

Growing the Social Web

So we are right at the beginning of the Social Web now. The need for it has become clear in the past year, and people are speaking of Personal Data Stores, me of a Social CMS. We are then in a very similar situation where Tim Berners Lee was in 1990 when he showed off the first Web Browser: he was the only one with a some content, and he needed to get the network to grow.



LANGUAGE, THOUGHT, AND OTHER BIOLOGICAL CATEGORIES

New Foundations for Realism

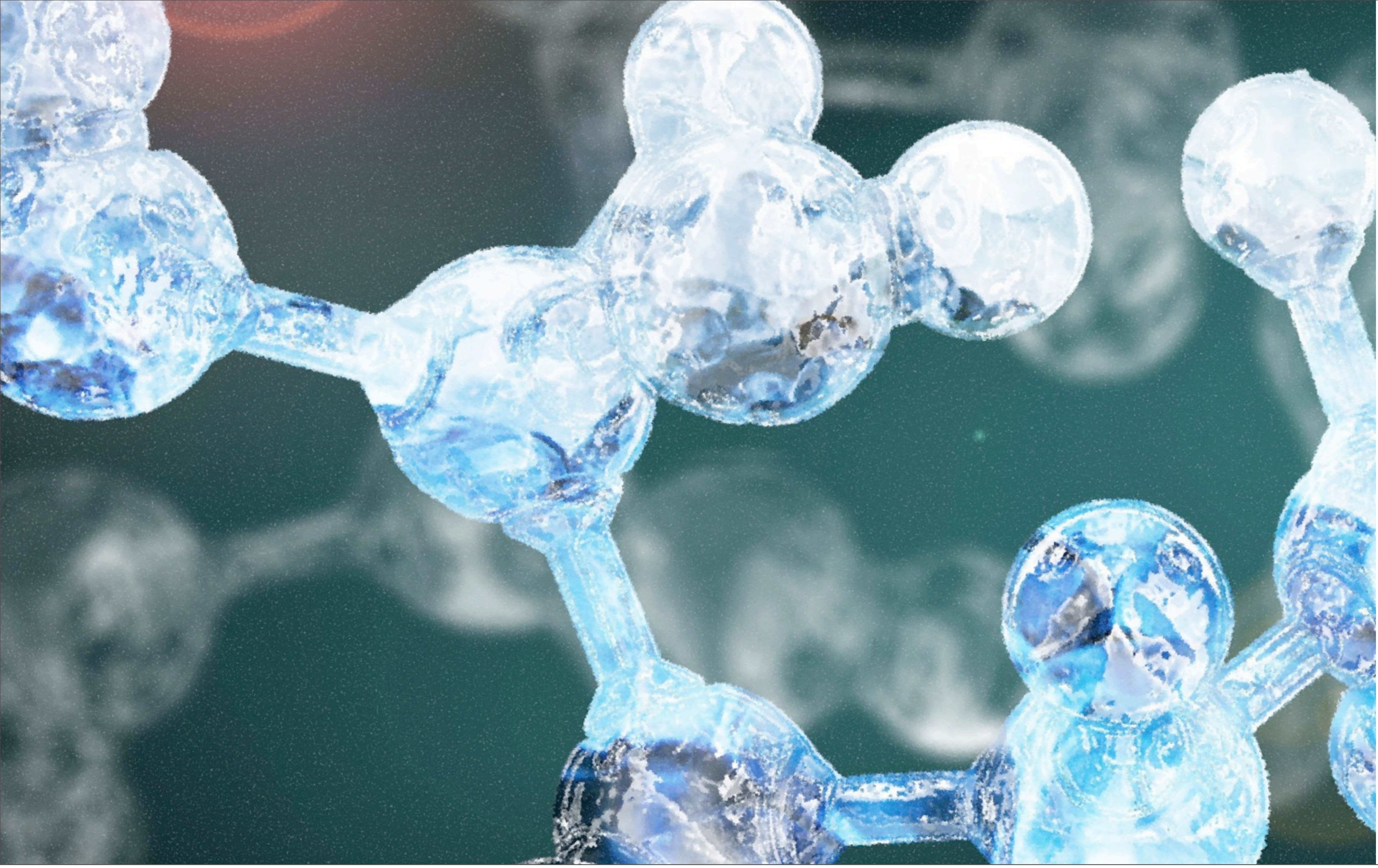
RUTH GARRETT MILLIKAN

To see that these metaphors of growth has a much deeper relevance than one may think, let me summarise this fascinating work by Ruth Garett Millikan, “Language, Thought and Other Biological Categories”. All her papers are online by the way on her web site.

--- Notes and References ---

I first developed the points described in the following section on April 2006 in “UFO’s seen growing on the Web” in response to a debate where the issue was how the semantic web could get going. The argument was that it needed an Upper Foundational Ontology but since it was impossible to get agreement on that, it was also impossible for the web to get going.

Millikan’s web site: http://www.philosophy.uconn.edu/department/millikan/
“UFO’s see Growing on the Web” April 06, 2006
  http://blogs.sun.com/bblfish/entry/ufo_s_seen_growing_on
“Names and memes” July 26, 2006
  http://blogs.sun.com/bblfish/entry/names_and_memes
“Language is a Virus” Sept 09, 2007
  http://blogs.sun.com/bblfish/entry/language_is_a_virus



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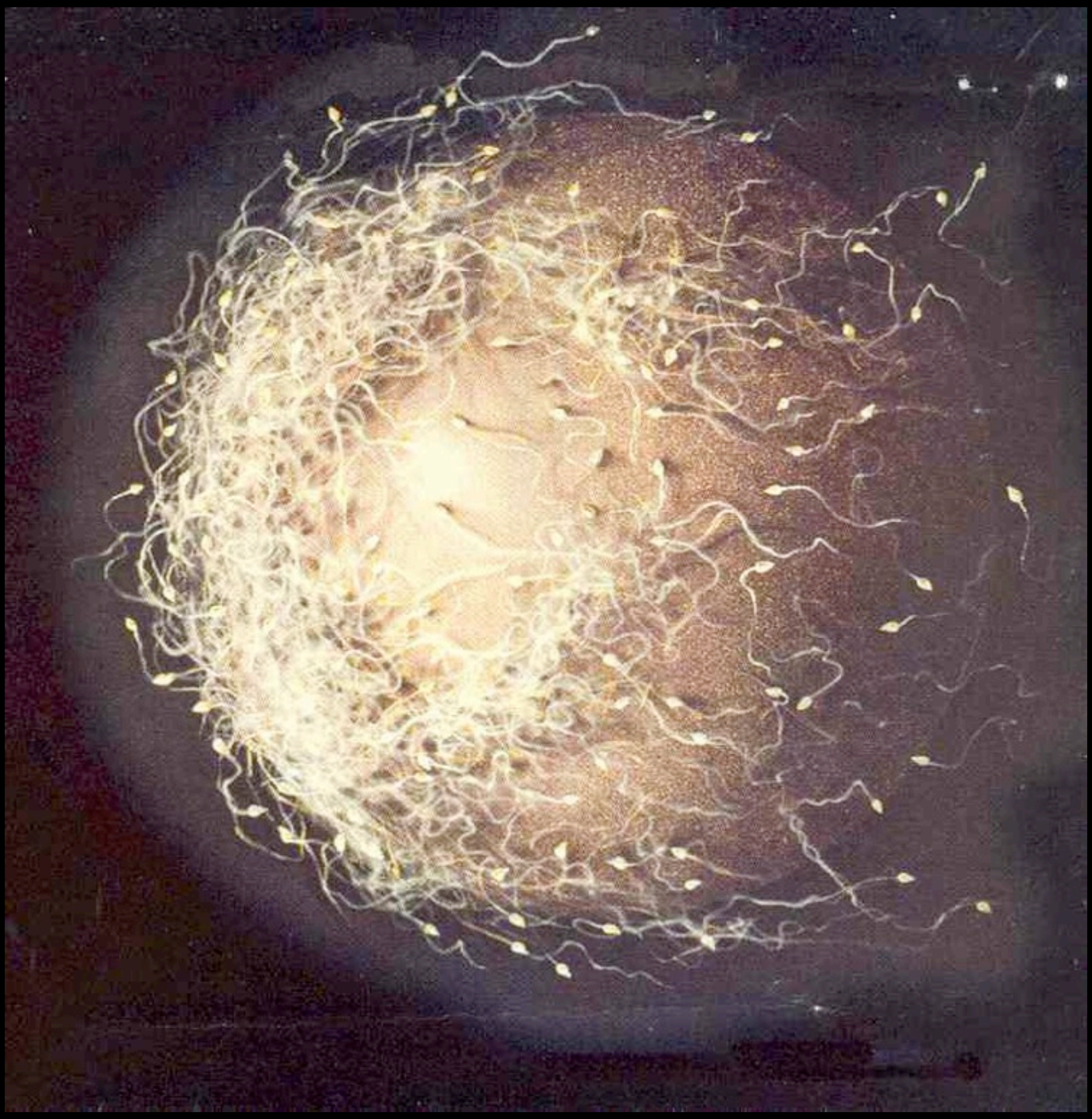
R. Millikan starts her book by asking what the distinction is between the physical and the biological. What is the Categorical difference between atoms and life.

(Picture owned by HP - I guess)

To start her analysis she considers a well known device: the photocopier. The function of this machine is to make copies of paper. The relation between the original paper and the new one is not a relation of material identity since we end up with two papers. The function of the photocopier is to produce a copy of a certain pattern: the patterns of text on the entry page. “A pattern has been reproduced” she writes “if its form is derived from a previous item or items having, in certain respects the same form, such that had the model(s) been different in these respects, the copy would have been different accordingly”.

Where it is easy to find the function of a mechanical device such as the photocopier, since we constructed it, and it comes with a user manual, it is not quite so easy to find the proper function for those structures in the world that have arisen by themselves: namely living beings. Since there is no user manual for living beings, which are clearly reproducing themselves Millikan asks how one can find the direct proper functions of parts of an organism such as the heart, the eye, etc... After considering different options she considers the statistical correlation. Perhaps the function of the heart pumping blood is because statistically that is what it does the most. This does indeed sound right in the case of the heart.



(Copyright unknown)
But the counterexample is just too strong. In the case of sperm and eggs, perhaps the two most fundamental elements in the evolution of most species, the statistical chance of a sperm succeeding in fertilizing an egg is close to zero. This leads Millikan to propose that the primary function of an organism is determined by the evolutionary role that function played in the history of that organism. Since Millikan described the notion of function in terms of the notion of reproduction and evolutionary history, and she places the Biological with the category of that which reproduces, this allows her to extend these thoughts to areas that may have previously seems dissimilar.

In particular she can then extend these notions to Language. Language can be thought of as composed of a generative syntax which guides the combinations of a finite set of words to produce ever new sentences. The generative syntax in humans can be thought of as being naturally selected for if we believe Chomsky. The words used in a language on the other hand are conventional, and they reproduce between each member of a language community as part of the sentences of which they are part. The function of the words may be many but for many words one important function is the referential function. If I someone shouts “careful! Bus!” the word “Bus” refers to a big heavy vehicle. In a world where people use the word as we do then at least in cases such as this it will have a direct relevance to the life of the person who hears it, as it should trigger them to turn their head and step back. That is the meaning of the words is in part independent of either the speaker or the hearer, though without of course a pattern of use in a community the word would have no meaning at all.

So with this conception which will remind some of the work on Memes by Richard Dawkins, Millikan has in book made some fundamental moves. First she has naturalised and historicised the philosophy of language. Analytic philosophy had until then suffered from an a-historical because too logical view of the world. By adding evolution, Millikan shows how the etymology of a word is key to understanding its meaning. Secondly she reminds us that there have to be reasons for words to spread from brain to brain. Each person needs to find an advantage in participating in the spreading of the word, which spreading reinforces the use of the word. But very importantly Milikan has also show how the relation of reference between a word and the world can be achieved even if it is not achieved in the minds of every participant that uses the word, as for example many people know something about “HIV” but could not distinguish it from any other disease if asked.

There may also be here something for people studying Derrida a french philosopher, who wrote a lot about texts to look at. From what I understand from one book by Geoffrey Bennington, Derrida was very aware of the historical nature of words, how when written they were to be read later by many people, many of whom would be unknown to the author, written perhaps to be read after his death. This led Derrida to notice that texts are things that survive over time and whose meaning is partly altered with every reading which in some way escapes them. Indeed if language belongs to the Biological Category, that is the category of those things which follow the logic of reproduction, then Millikan may have found a way for french and analytic philosophy to find another meeting point, perhaps with the added advantage that Millikan can give an explanation also of reference, and so tie the word back to the world.

what are the components?

- Software reproduces
- Vocabularies reproduce
- They reproduce each other
- Selection of vocabularies
- Value of network effect

(Picture given out with Keynote.app by Apple)
So with such an understanding of language we can explain the final part of how the Social Web can grow in a distributed decentralised way. In a decentralised World Wide Web there can be no Académie du Web that orders and defines the meanings of URLs on the Web. Such an organisation would be a huge bottleneck, and it would be impossible in a global space. But if there is no central authority, only relative trusted authorities such as the W3C, then how do we avoid a massive duplication of vocabularies on every subject? Who gets to decide which the good vocabularies are? Well in the end I want to suggest it is simply natural selection of vocabularies. This natural selection occurs in a number of ways, which are not that different from how HTML and the web got going in the first place. Vocabularies appear in documents that are read by software, which can then publish new documents for others to link to (in the case of the WWW the navigators did not publish, but html was easy enough for people publishers to learn by themselves). If doing this increases the value to the user of the software tool he is using while increasing the value of the network even more then the vocabulary (the URIs, html) will spread in the web and so will the software too. As these networks grow in value, any new software tool that consumes the vocabulary will find it more advantageous to work with the old vocabulary rather than create a new one to do the same thing, as it will then surf along with the growing movement that already exists. For a vocabulary to maximise it's adoption it has to minimise any friction to its duplication: patent free, copyright free licences help a lot here, and so does truthfulness and trust in the institutions publishing core vocabularies - a place for universities, which are some of the longest established institutions in the world, to play a leading roles.

Conclusion

- The Web is a declarative P2P architecture built on URIs
- Reference enabled both linking and merging of information
- Network effects is the driving force
- WebID enables agent identification in a subjective web of trust

So in conclusion of this very long talk. We saw how behind the web, in the social web and in the linked data and semantic web the network effect is a driving force that allows these distributed peer to peer, biological like systems to grow and stabilise. Currently these network effects are working in favour of some very big providers, but their inability to link out is imprisoning their users and in the longer term themselves too. A much wider space of possibilities is available in a global social web allowing players from health agents to government institutions to political players to businesses to work together in a decentralised way, protecting each actors privacy in the process, as well as allowing them each to express their point of view without enforcing a point of view on the system as a whole. It is on the foundations of the URI, the global identifier, that the network effect can take place, by tying sense and reference together and enabling information linking and merging at a global scale.

Identity is social.

http://bblfish.net/

Identity is in a very strong way social, and of course the social is very much tied to identity. This should not come as a surprise. There is a lot more to be said certainly but the best is to leave this open for further exploration and discussion on the web.

Also as a final note I recommend “Logicomix” a great cartoon that covers the birth of 20th century analytical philosophy and logic.
http://www.logicomix.com/